5G, Edge and IoT/Embedded Building Block Solutions

Connecting the Intelligent World from Devices to the Cloud

Long-life Cycle · High-Efficiency · Compact Form Factor · High Performance · Global Services

SMART CITIES & SPACES

INDUSTRIAL

SMART HEALTHCARE

RETAIL & FOODSERVICE

ENERGY & POWER

5G & TELCO

5G, EDGE AND IOT/EMBEDDED BUILDING BLOCK SOLUTIONS

Hyper-E Ultra Short-Depth Outdoor Edge Rackmount Wall-Mount IPC SuperEdge Fanless Compact Fanless Gateway Top-Loading Storage

Supermicro Building Block Solutions for 5G Networks, the Intelligent Edge, and Embedded Applications

September 2022
Vertically Driven – Horizontally Focused

The Supermicro portfolio spans from data center-class performance with the latest 3rd Gen Intel® Xeon® Scalable processors and NVIDIA Ampere GPUs down to embedded-optimized Intel® Atom™ and Core SoCs. 5G/Edge systems now part of Supermicro’s Global SKU program.

Supermicro Strengths and Highlights

Supermicro commitment to Telco requirements and demanding environments:

- World-class engineering delivering rapid time-to-market solutions
- Complete platform encompassing Edge – Core – Cloud
- Enhanced scalability & flexibility vs traditional siloed, bare metal, approaches
- High availability and resiliency in architecture enabling non-disruptive upgrades
- Cost effective: procure infrastructure components as needed
- Easily adapted to meet new performance demands
- Flexibility with incorporating new technologies: allows for heterogeneous environments
- Commercial flexibility: OpEx platform as a service (PaaS)
- Extensive partner network: deployment, servicing, B2B relationships
- Integration, lab, and engineering services
- Telecom-compliant systems: NEBS Level 3 certification, DC power supply options, short-depth chassis, front I/O, IP65-rated enclosures
Optimized Platform for 5G/Telco Applications

Highlight Systems

SuperEdge
SYS-210TP-HPTR
SYS-210TP-HPTRD
2U 4-node server with 3rd Gen Intel® Xeon® Scalable processor and 2000W redundant and rear access AC and DC power supply options

SuperEdge
SYS-210SE-31A
SYS-210SE-31D
2U 3-node short-depth server with 3rd Gen Intel® Xeon® Scalable processor, front access IO and tool-less serviceability

Hyper-E
SYS-220HE-FTNR
SYS-220HE-FTNRD
High-performance, highly-configurable 2U Edge server with dual 3rd Gen Intel® Xeon® Scalable processors and AC and DC power supply options

Edge Rackmount 2U
SYS-210P-FRDN6T
Ultra short-depth 2U rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor and redundant DC power supplies

Edge Rackmount 1U
SYS-110P-FDWTR
Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor and redundant DC power supplies

Outdoor Edge
SYS-E403-9D-16C-IPD2
SYS-E403-9D-14CN-IPD2
SYS-E403-9D-16C-IP
Configurable Edge server with Intel® Xeon® D processor in an environmentally-hardened enclosure with IP-65 rating and AC and DC power supply options.

Solutions

- 5G and LTE virtual RAN including O-RAN DU and CU
- Multi-access Edge computing (MEC) with AI accelerators, VPUs, and FPGAs
Intelligent Retail and Foodservice

- Providing disruptive AI-based solutions to help retailers, hospitality, and restaurants to take advantage of technological and societal advancements
- Improving customer experience using AI, augmented/virtual reality, digital signage, kiosks, and analytics
- Support for highly secure, Zero Trust, high availability systems to provide complete, optimized solutions – ensuring 100% uptime

Highlight Systems

SYS-E403-12P-FN2T
Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor

SYS-110P-FRN2T
Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor

SYS-210P-FRDN6T
Ultra short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor

SYS-E300-9D-8CN8TP
Compact server with Intel® Xeon® D processor

SYS-E302-9A
Ruggedized compact fanless server with Intel® Xeon® D processor

SYS-E100-12T-E
Ruggedized ultra-compact fanless server with Intel® Core™ processor

Solutions

- Retail Edge platforms that orchestrate distributed computing in multiple locations with centralized management
- On-premises analytic platforms for real-time insights into operational and customer dynamics
Industry 4.0

- Solutions for device connectivity and intelligence at the Edge, enabling streamlined operation and increased automation
- Supporting AI- and computer vision-based controls to improve quality, worker safety, and increased revenue
- Reliable operation of a wide range of optimized compute architectures such as Edge AI in extreme environments

Highlight Systems

SYS-E403-12P-FN2T
Configurable wall-mount Edge server with 3rd Gen Intel® Xeon® Scalable processor

SYS-E302-9A
Compact fanless server with Intel® Atom® processor

SYS-E100-9W-IA-H
Ruggedized compact fanless industrial PC with Intel® Core™ processor

SYS-110P-FRN2T
Short-depth rackmount Edge server with 3rd Gen Intel® Xeon® Scalable processor

SYS-220HE-FTNR
High-performance, highly-configurable 2U Edge server with dual 3rd Gen Intel® Xeon® Scalable processors

Embedded MBGs
Power-efficient boards for embedded industrial applications

Solutions

- Industry 4.0 Edge AI solutions for robotic controls and logistics
- Industrial systems and applications for production and manufacturing
- Computer vision for quality control including defect detection
Smart Cities and Smart Spaces

- Edge computing distributed across multiple locations supporting transportation, security, venues, cities, and buildings to improve community safety and quality of experience (QoE) with innovative connected applications
- AI inferencing and visual computing in Outdoor Edge locations, enabling intelligent surveillance and accurate incident reporting for faster response times
- Supporting V2X for parking, traffic, and pedestrian safety, autonomous vehicle support, and public transportation improvements

Highlight Systems

<table>
<thead>
<tr>
<th>Solution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS-E403-9D-16C-IPD2</td>
<td>Configurable Edge server with Intel® Xeon® D processor in an environmentally-hardened enclosure.</td>
</tr>
<tr>
<td>SYS-220HE-FTNR</td>
<td>High-performance, highly-configurable 2U Edge server with dual 3rd Gen Intel® Xeon® Scalable processors</td>
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<tr>
<td>SYS-E100-12T-E</td>
<td>Ruggedized ultra-compact fanless server with Intel® Core® processor</td>
</tr>
</tbody>
</table>

Solutions

- Distributed AI-powered pole-mount systems for safety and security
- Smart stadium system to provide absolute best fan experience with interactive, responsive services
Smart Healthcare

- Local Edge computing to optimize the use of critical resources in emergency situations
- Distributed Edge computing to implement contact tracing via real-time analytics
- Remote patient monitoring, augmented by Edge AI inferencing, to improve patient quality of life and outcomes
- Fanless, silent server hardware ideal for delicate medical environments

Highlight Systems

<table>
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<tr>
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<td>Ruggedized ultra-compact fanless server with Intel® Core® processor</td>
</tr>
<tr>
<td>Embedded MBDs</td>
<td>Power-efficient boards for embedded medical applications</td>
</tr>
</tbody>
</table>

Solutions

- Remote patient monitoring (RPM) for at-home, in-clinic, and remote locations
- ICU bed optimization for real-time ICU shortfalls and availability, and medical asset management
Expanding our Product Portfolio to address 5G, Edge Computing, and Emerging IoT Systems

Supermicro provides innovative and first-to-market technologies that are the building blocks for today’s embedded computing platforms. Rapid growth in embedded markets and open standards are driving the need for higher levels of product integration and optimization through virtualization, AI inferencing, network connectivity, remote management, mobile communication, expanded I/O, and device-to-device communications using space and power efficient configurations.

Supermicro’s family of high-performance embedded products are optimized for a wide range of applications and solutions.

The Hyper-E Edge server features NEBS Level 3 certification and is purpose built for far-edge deployments to operate in harsh environments with challenging thermal conditions, and withstand seismic events. Hyper-E is designed to meet the performance demands and energy consumption restrictions required by high-density Tier 1 Telco providers, while providing long-lifecycles and maximum uptime.

Supermicro offers many flexible and customized solutions for critical OEM projects, as well as advanced designs for stringent environments, firmware customization, BOM enhancements, and a wide range of legacy IO support.
Embedded/IoT Building Block Solutions - September 2022

X11 Intel® Xeon® Scalable Processors
Single/Dual Processor System Solutions (Cascade Lake/Skylake, LGA 3647)

Supermicro’s X11 DP/UP Embedded Motherboards and Systems offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 3TB DDR4 2666MHz in 24 DIMM slots per node, 7 PCI-E slots, SAS 3.0/SATA 3.0/NVMe hot-swap HDD/SSD support, 10GBase-T/10G SFP+/56Gbps FDR InfiniBand networking options, SATA Disk-on-Module (DOM), and IPMI 2.0 plus KVM with dedicated LAN, and can support new SKU of 2nd Gen Intel® Xeon® Scalable processors. The embedded boards offer 7 year life cycle.

System Solutions

UP Motherboard Solutions

C621 | 28 cores | 165W
X11SPL-F

C622 | 28 cores | 205W
X11SPH-nCTF/nCTPF

C622 | 28 cores | 205W
X11SPW-CTF/TF

C622 | 28 cores | 205W
X11SP-TF

C622 | 28 cores | 165W
X11SPM-F/TF/TPF

DP Motherboard Solutions

-N: C621 | 28 cores | 205W
X11DPI-N/NT

C624 | 28 cores | 165W
X11DPH-T

C621 | 28 cores | 205W
X11DAi-N

C621 | 28 cores | 205W
X11DPX-T
X12 Intel® Xeon® D-1700 and D-2700 Processors

High Core, High Performance

Supermicro X12 systems support Intel® Xeon® D-1700 and Intel® Xeon® D-2700 processors. The E300, 110D and 510D lines of servers are uniquely designed for ruggedized environments where the power and performance of the new generation Intel Xeon D processors are needed to meet demanding SLAs.

The SYS-E300-12D incorporates an Intel® Xeon® D-1700 processor with 4, 8, or 10 cores and up to 256GB of DDR4 memory in a 1U mini-server case. The SYS-510D model offers larger amounts of storage and a total of 4x1G and 2x25G ethernet ports, while the SYS-110D servers contain Intel Xeon D-2700 series CPUs with up to 20 cores and 512GB of memory.

System Solutions

![Image of SYS-E300-12D and SYS-510D systems]

SYS-110D-4C-FRAN8TP
SYS-110D-8C-FRAN8TP
SYS-110D-16C-FRAN8TP
SYS-110D-20C-FRAN8TP

Intel® Xeon® D-2700 series
4/8/16/20 cores

SYS-110D-4C-FRDN8TP
SYS-110D-8C-FRDN8TP
SYS-110D-16C-FRDN8TP
SYS-110D-20C-FRDN8TP

Intel® Xeon® D-2700 series
4/8/16/20 cores

![Image of SYS-E300-12D and SYS-510D systems]

SYS-510D-4C-FN6P
SYS-510D-8C-FN6P
SYS-510D-10C-FN6P

Intel® Xeon® D-1700 series
4/8/10 cores

SYS-E300-12D-4CN6P
SYS-E300-12D-8CN6P
SYS-E300-12D-10CN6P

Intel® Xeon® D-1700 series
4/8/10 cores

Motherboard Solutions

<table>
<thead>
<tr>
<th>Model</th>
<th>Cores</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-2712T</td>
<td>4</td>
<td>65W</td>
</tr>
<tr>
<td>D-2733NT</td>
<td>8</td>
<td>80W</td>
</tr>
<tr>
<td>D-2775TE</td>
<td>16</td>
<td>100W</td>
</tr>
<tr>
<td>D-2796NT</td>
<td>20</td>
<td>120W</td>
</tr>
<tr>
<td>D-1718T</td>
<td>4</td>
<td>46W</td>
</tr>
<tr>
<td>D-1736NT</td>
<td>8</td>
<td>67W</td>
</tr>
<tr>
<td>D-1747NTE</td>
<td>10</td>
<td>80W</td>
</tr>
</tbody>
</table>

![Image of motherboard options]
X11 Intel® Xeon® D-2100 Processors

High Core, High Performance (FCBGA 2518, SoC)

Supermicro X11 Generation of Motherboards/Servers support Intel® Xeon® D-2100 (Formerly Skylake-D) series system-on-chip (SoC) processors.

Systems include up to four integrated ports of 10 Gigabit Intel® Ethernet, and up to 512GB of addressable memory with Error Correcting Code (ECC), and Intel® QuickAssist Technology (QAT) provides up to 100Gbps of hardware acceleration for compute-intensive, such as cryptography, encryption, and description.

System Solutions

![System Solutions Diagram]

Motherboard Solutions

- D-2123IT | 4 Core | 60W
- D-2141IT | 8 Core | 65W
- D-2166NT | 12 Core | 85W
- D-2183IT | 16 Core | 100W
- D-2146NT | 8 Core | 80W
- D-2166NT | 12 Core | 85W
- D-2183IT | 16 Core | 100W
Supermicro X11 Motherboards and Servers support Intel® Xeon® E-2100 and E-2200 (Coffee Lake / Refresh) Series processors with enterprise-class reliability and performance, offering server-class motherboards and entry-level servers. Intel® Xeon® E introduces the first 6-core/12-Thread processors with optimized 14 nm technology. These processors offer thermal design power (TDP) options of (35W - 95W) to fit specific designs configurations with performance and low-power requirements. The E series processors are ideally suited for a wide range of embedded/IoT, Networking and Storage Applications.

System Solutions

**SYS-1019C-FHTN8** 1U • 15” depth
- Up to 128GB ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- 8x 1GbE, 1 dedicated IPMI LAN
- 1 VGA, 2 USB 3.1, 2 USB 2.0
- 1 PCI-E 3.0 x16
- Dual M.2 M key (22110/2280)
- 2x 2.5” Hot Swap, 2x 2.5” Internal SATA3 Drive Bay

**SYS-5019C-MHN2** 1U • 19.8” depth
- Up to 128GB ECC UDIMM, up to DDR4-2666MHz, 4 DIMM slots
- 1 PCI-E 3.0 x16 slot
- 4 Hot-swap 3.5” drive bays
- Dual LAN with Intel® Ethernet Controller i219LM and i210AT
- 1U 350W Multi-output Platinum Level power supply

**SYS-1019C-HTN2** 1U • 111.3” depth
- Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- Remote management via dedicated IPMI BMC
- 4 USB 3.1
- 2 DP, DVI-I, VGA, Audio
- PCI-E 3.0 x 16 HH/HF slot; M.2 (M key, 22110/80, PCI-E 3.0 x4/SATA)

Motherboard Solutions

C246 | 6 cores | 95W
C246 | 6 cores | 95W
C246 | 6 cores | 95W
C246 | 6 cores | 95W
C246 | 6 cores | 95W
C246 | 6 cores | 95W
C246 | 6 cores | 95W
X12 Intel® Xeon® W-1200/10th Gen Core Processors

Up to 10 Cores with W480E or Q470E Chipset (Comet Lake, LGA 1200)

Supermicro’s newest generation X12 UP Embedded Motherboards with Intel’s Xeon® W-1200 series and 10th Generation Core i9/i7/i5/i3/Pentium/Celeron series processor offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 128GB DDR4 2933MHz in four DIMM slots, CPUs up to 10 cores, PCI-E slots with bifurcation support, USB 3.2 Gen 2, M.2 E/M-keys, and SATA 3.0 (6Gbps).

Designed with performance, reliability, manageability, and long-life support in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multitasking and heavy workload applications.

System Solutions

Motherboard Solutions

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Designed with performance, reliability, manageability, and long-life support in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multitasking and heavy workload applications.

System Solutions
Supermicro X10 Motherboards and Servers support Intel® Xeon® D-1500 (Formerly Broadwell-DE) series system-on-chip (SoC) processors. Based on Intel’s third-generation 64-bit system on a chip (SoC) and 14 nm silicon technology, the Supermicro product lineup offers processor scalability from two up to sixteen cores, making it the perfect choice for a broad range of high-density, high-performing, midrange-power solutions (TDP ~25W to 65W) that brings superior design solutions to the intelligent Edge.

The Intel® Xeon® processor D-1500 product family is offered with a seven-year extended supply life and 10-year reliability for Internet of Things designs.

**Mini-ITX System Solutions**

**SYS-5018D-FN4T**

- Front I/O, Space-efficient, compact design
- Intel® Xeon® processor D-1541, Single socket FCBGA 1667; 8-Core, 45W
- 1 PCI-E 3.0 x 16, 1x M.2 PCI-E 3.0 x4 (Supports NVMe, AHCI) 2242/2280
- Up to 128GB ECC RDIMM DDR4 2400MHz or 64GB ECC/non-ECC UDIMM in 4 sockets
- Dual 10GbE LAN and Intel® i350-AM2 dual port GbE LAN

**SYS-5018D-FN4T**

- Front I/O, Space-efficient, compact design
- Intel® Xeon® processor D-1541, Single socket FCBGA 1667; 8-Core, 45W
- 1 PCI-E 3.0 x 16, 1x M.2 PCI-E 3.0 x4 (Supports NVMe, AHCI) 2242/2280
- Up to 128GB ECC RDIMM DDR4 2400MHz or 64GB ECC/non-ECC UDIMM in 4 sockets
- Dual 10GbE LAN and Intel® i350-AM2 dual port GbE LAN

**Flex-ATX System Solutions**

**SYS-1018D-FRN8T**

- Intel® Xeon® SoC 16 Core, 32 Threads, 65W, 1.7~2.3GHz
- VT-d/x, TXT, AES-NI, Intel® Xeon® RAS, Built-in 10GbE
- Up to 128GB 2133MHz DDR4 RDIMM or 64GB 2133MHz ECC/Non-ECC UDIMM
- IPMI 2.0 with KVM Dedicated port
- 6x GbE LAN and Dual 10G SFP+

**SYS-1018D-FRN8T**

- Front I/O, Space-efficient, compact design
- Intel® Xeon® processor D-1541, Single socket FCBGA 1667; 8-Core, 45W
- 1 PCI-E 3.0 x 16, 1x M.2 PCI-E 3.0 x4 (Supports NVMe, AHCI) 2242/2280
- Up to 128GB ECC RDIMM DDR4 2400MHz or 64GB ECC/non-ECC UDIMM in 4 sockets
- Dual 10GbE LAN and Intel® i350-AM2 dual port GbE LAN

* Microsoft Azure Certified. Please see page 44 for complete list.
Supermicro X11 Single Processor servers now support E3-1200 v6/v5 (Kabylake/Skylake) series processors. Server motherboards coupled with the long-life C236 PCH Chipset provide up to 7 years of extended life for embedded applications. These systems deliver breakthrough performance, high performance graphics, stronger security and power efficiency over previous generation products. The systems are ideal for a wide range of IoT applications, including industrial control and automation, retail kiosks and medical devices.

**System Solutions**

**SYS-5019S-M2, 1U • 19.85" depth**

- Up to 4 DIMMs, 64 GB of 2400MHz DDR4 UDIMM ECC/NON-ECC
- Intel® Xeon® E3-1200 v6/v5 & 7th/6th Gen Intel® Core™ i7, i5, i3, Pentium®, Celeron® processor in LGA1151 | C236
- 2 DP, DVI-I, total 3x independent display
- 4x 3.5" SATA3 hot-swap drive bays
- Intel® vPro™ and AMT
- 2 Gigabit LAN with AMT
- 1 PCI-E 3.0 x16 FH, HL slot
- 7 year life cycle

**Motherboard Solutions**

- 4 cores | 80W
- X11SSH-F
- X11SSH-LN4F
- X11SSH-TF
- X11SSH-CTF
- X11SSM
- X11SSM-F
- X11SSL
- Intel® C236
- 4 cores | 80W
- 4 cores | 80W
- X11SSL-F
- X11SSL-CF
- X11SSL-nF
- X11SSW-F
- X11SSW-TF
- X11SSW-4TF
- X11SSi-LN4F
- 4 cores | 80W
- X11SSA-F
- X11SAE
- X11SAE-F
- X11SAE-M
- X11SSZ-F
- X11SSZ-QF
- X11SSZ-TLN4F
A2 Intel® Atom™ C3000

High Density, Low Power Solutions (Denverton, FCBGA 1310)

Supermicro A2 Generation of Motherboards/Servers support Intel® Atom™ Processors C3000 (Formerly Denerton) series system-on-chip (SoC) Processors.

Based on low-power Goldmont microarchitecture and 14-nanometer process technology, this product family extends the scalability of Supermicro Products into industry-leading performance per watt, low thermal design power (TDP), and unprecedented levels of configurable high-speed I/O for accelerated innovation across networking, storage, Internet of Things (IoT), and Scalable solutions. It also offers hardware assist Intel® QuickAssist Technology (Intel® QAT) to accelerate storage compression and cryptographic workloads.

System Solutions

SYS-5019A-FTN41U • 9.8" depth
- 1x 3.5" or 4x 2.5" internal drive bays
- 1 PCI-E x4, 1 M.2 (M key for SSD, 2242/2280, PCI-E 3.0 x2 or SATA3)
- Up to 256GB ECC DDR4 2400MHz or 64GB ECC/non-ECC UDIMM in 4 DIMM slots
- 4 GbE LAN, 1 dedicated IPMI LAN

SYS-5019A-FN5T1U • 9.8" depth
- 1x PCI-E x8, 1 M-Key 2242/80 supports PCI-E 3.0 x2/SATA
- 1 B-Key 3042/2280 supports PCI-E 3.0 x2/SATA/USB
- 4x 10GbE LAN ports, 1x 1GbE LAN port (IPMI shared LAN), 1x COM, 4x USB 3.0
- SoC controller for 2 SATA3 (6Gb/s) ports
- 1x 3.5" or 2x 2.5" HDD

Supermicro A2 Generation of Motherboards/Servers support Intel® Atom™ Processors C3000 (Formerly Denverton) series system-on-chip (SoC) Processors.

Based on low-power Goldmont microarchitecture and 14-nanometer process technology, this product family extends the scalability of Supermicro Products into industry-leading performance per watt, low thermal design power (TDP), and unprecedented levels of configurable high-speed I/O for accelerated innovation across networking, storage, Internet of Things (IoT), and Scalable solutions. It also offers hardware assist Intel® QuickAssist Technology (Intel® QAT) to accelerate storage compression and cryptographic workloads.

Motherboard Solutions
A1 Intel® Atom™ C2000

High Density, Low Power Solutions (Rangley & Avoton, FCBGA 1283)

Supermicro A1 Generation of Motherboards/Servers support Intel® Atom™ Processors C2000 (Formerly Avoton, Rangeley) series system-on-chip (SoC) Processors.

Based on low-power Silvermont microarchitecture and 22-nanometer process technology, this product family extends the scalability of Supermicro Products into smaller footprints, low power, and hardware assisted encryption/compression engines for networking communications, storage and intelligent systems applications.

This product family offers multi-core processing capabilities (from two cores to eight cores), a range of thermal design power (TDP) from 7 to 20 watts, supports energy-efficient network designs with dual 1G to Dual 10G LAN Ports, Multiple Display capabilities, including fanless embedded designs.

System Solutions

SYS-5018A-LTN4 1U • 9.8" depth
• Up to 2 DIMMs, 16GB of DDR3 ECC SODIMM 1333MHz
• 2x 3.5" or optional 4x 2.5" internal SATA2 and SATA3 Drive Bays
• 1x PCI-E 2.0 x8 Slot, 2x USB 3.0, 2x USB 2.0, VGA, COM,
• Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
• 200W Gold Level Low-Noise Power Supply

SYS-5028A-TN4 Mini Tower
• 4 DIMMs / 64GB of DDR3 ECC SODIMM 1600MHz
• 4x 3.5" hot-swap SATA trays, 2x 2.5" internal HDD Drive Bays
• 1 PCI-E 2.0 x8 Slot, 2 USB 3.0, 2 USB 2.0, VGA, COM,
• Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
• 250W Bronze Level Low-Noise Power Supply

Supermicro A1 Generation of Motherboards/Servers support Intel® Atom™ Processors C2000 (Formerly Avoton, Rangeley) series system-on-chip (SoC) Processors.

Based on low-power Silvermont microarchitecture and 22-nanometer process technology, this product family extends the scalability of Supermicro Products into smaller footprints, low power, and hardware assisted encryption/compression engines for networking communications, storage and intelligent systems applications.

This product family offers multi-core processing capabilities (from two cores to eight cores), a range of thermal design power (TDP) from 7 to 20 watts, supports energy-efficient network designs with dual 1G to Dual 10G LAN Ports, Multiple Display capabilities, including fanless embedded designs.

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Motherboard Solutions

<table>
<thead>
<tr>
<th>Mini-ITX</th>
<th>Proprietary</th>
<th>mATX</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2550F:C2550</td>
<td>4 cores</td>
<td>14W</td>
</tr>
<tr>
<td>-2750F:C2750</td>
<td>8 cores</td>
<td>20W</td>
</tr>
<tr>
<td>C2358</td>
<td>2 cores</td>
<td>7W</td>
</tr>
<tr>
<td>20W</td>
<td>-2750F:C2750</td>
<td>8 cores</td>
</tr>
</tbody>
</table>

* Microsoft Azure Certified. Please see page 44 for complete list.
Supermicro X11 Single Processor servers with E3-1500 v5 (Skylake-H) series processors provide up to 26% higher graphics performance than the previous-generation E3-1200 v4 processors. For dense and high-capacity media processing over the net, these systems can deliver up to 18 AVC streams or 8 HEVC streams at 1080p 30 frames per second (FPS), or 2 HEVC streams at 4K 30 FPS.

SYS-5019S-TN4 1U • 9.8" depth
- Single socket FCBGA 1440 supports Intel® Xeon® processor E3-1585 v5, 8 Threads
- Intel® C236 chipset
- 1x 3.5" or 4x 2.5" HDD
- Up to 32GB Unbuffered ECC SO-DIMM DDR4 2133MHz; 2 DIMM slots
- 1 PCI-E 3.0 x16, 1 Mini-PCI-E with mSATA, 1 M.2 (M Key, 2242/2280)

SYS-E300-9C, Mini-1U • 10" width
- 2 Internal 2.5" fixed drive bays with bracket
- 1 PCI-E 3.0 x16 AOC slot (LP) open slot (space share with top 2.5" drive bay)
- Up to 64GB unbuf. non-ECC SO-DIMM, DDR4-2666Mz; in 2 DIMM slots
- M.2 M key: SATA/PCI-E 3.0 x4, support 2242/2280 length
- M.2 E key: PCI-E 3.0 x1, support 2230 length
- 2x GbE LAN ports, 4 USB 3.1 (2 type A and 2 type C)

X11 Intel® Core™ i9, i7, i5, i3, 8th/9th Gen Single Processor
Up to 6 cores with Q370 Chip Set (Coffee-Lake, FCBGA 1151)
Supermicro single processor X11 designs feature the Intel® B360/Q370/H310 chipset which support the Intel® 8th Generation Core™ i7/i5/i3 processor family. With outstanding features that include up to 64GB non-ECC fast DDR4 DRAM in 4 DIMMs, USB 3.0/USB 3.1, PCI-E 3.0 M.2, and SATA 3.0 (6Gbps) HDD. With support for next generation graphics controller, 4K HD graphics resolution and multiple displays. Designed with performance, reliability, manageability and long-life in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multi-tasking, heavy workload applications.

SYS-E300-9C, Mini-1U • 10" width
- 2 Internal 2.5" fixed drive bays with bracket
- 1 PCI-E 3.0 x16 AOC slot (LP) open slot (space share with top 2.5" drive bay)
- Up to 64GB unbuf. non-ECC SO-DIMM, DDR4-2666Mz; in 2 DIMM slots
- M.2 M key: SATA/PCI-E 3.0 x4, support 2242/2280 length
- M.2 E key: PCI-E 3.0 x1, support 2230 length
- 2x GbE LAN ports, 4 USB 3.1 (2 type A and 2 type C)
Intel® Core™ i7, i5, i3 Single Processor

*Higher Performance with improved graphics and better power efficiency (Skylake-S/Kabylake-S)*

The 7th/6th Gen Intel® Core™ processors deliver significant improvements in graphics performance that offers stunning visuals for gaming as well as compelling 4K content creation and media playback via AVX 2.0. Offers enhanced security through AES instructions for faster encryption as well as BIOS/FW protection, new I/O connectivity and multiple independent display capabilities.

### System Solutions

**SYS-1019S-M2** Compact 1U • 16.9" depth

- Up to 64GB Unbuffered non-ECC, DDR4-2400MHz in 4 DIMM slots
- Intel® 7th/6th Generation Core™ i7/i5/i3 series, Intel® Celeron®, Intel® Pentium®
- Remote management via IPMI or vPro | Q170
- 2 Gigabit LAN ports, 2x DP, DVI-I, 3 independent displays
- Full Height and Full Length add on card support
- Power redundancy or BBP® support

**SYS-5019S-M2** 1U • 19.85" depth

- Up to 4 DIMMs, 64 GB of 2400MHz DDR4 UDIMM ECC/NON-ECC
- Intel® Xeon® E3-1200 v6/v5 & 7th/6th Gen Intel® Core™ i7, i5, i3, Pentium®, Celeron® processor in LGA1151 | C236
- 2 DP, DVI-I, total 3x independent display
- 4x 3.5" SATA3 hot-swap drive bays
- Intel® vPro™ and AMT
- 2 Gigabit LAN with AMT
- 1 PCI-E 3.0 x16 FH, HL slot
- 7 year life cycle

**SYS-5029S-TN2** Mini Tower

- Compact Mini Tower 7th/6th Gen. Intel® i7/i5/i3 Core™ Server
- 32GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots
- 7th/6th Generation Intel® Core™ i7/i5/i3, Pentium and Celeron Processor in LGA1151 Socket | Q170
- Up to 4 Hot-Swap 3.5" SATA3 HDD, 1 internal 2.5" fixed HDD and 1 M.2 (M key 2242/80 PCI-E 3.0 x4)
- 2 Gigabit LAN ports
- Embedded long-life
- Quiet Operation
- 1 slim DVD-ROM drive bay (shared with 1 internal 2.5" drive bay)

### Motherboard Solutions

- **X11SSQ/L**
- **X11SSZ-QF**
- **X11SSZ-TLN4F/F**
- **X11SSV-Q**
- **X11SSV-LVDS**
Intel® Atom™/ Pentium™ / Celeron® Processors
(Apollo Lake)

Supermicro X11/A2 Generation of Motherboards/Servers support Intel® Atom™ processor x5-E3900, Pentium™ N4200 and
Celeron® J3455 (Formerly Apollo Lake) series system-on-chip (SoC) Processors.

Based on Goldmont architecture and utilizing Intel’s industry-leading 14 nm process technology, the Supermicro high density,
low-power Motherboard/Server solutions provide great options for value-segment buyers who need basic functionality at
an affordable price. The solutions are ideal as IoT Gateway/Edge Computing, that focus more strongly on data collection and
real-time communication over networks, provide telemetry and usage information helping to drive predictive analytics, even
perform inference locally to take actions without latency. Empowers real-time computing in intelligent AIoT applications for retail,
industrial and medical, and more.

System Solutions

SYS-E50-9AP-WIFI*
- Built-in WiFi/BT combo module and 2T2R antenna
- IP51 with plastic chassis design for water/dust proof
- Cable-less design for increased reliability and cost efficiency
- Fanless design with palm-size dimension

Motherboard Solutions

A2SAN-E/H/L
A2SAN-LN4-E/C
A2SAN-E/H/L-WOHS
(without heatsink)
A2SAV

* Microsoft Azure Certified. Please see page 44 for complete list.
X13 12th Generation Intel® Mobile Core Processor

**Intel® Core™ U-Series multi-chip package (MCP FCBGA-1744)**

Supermicro X13 Generation of Motherboards/Servers features the Intel® 12th Generation Core™ i7/i5/i3/ Celeron® processor. Ultra-low-power, Alder Lake U-Series 15W, with 10 Cores/12 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR5 DRAM in 2 SODIMM, 4 USB 3.2 Gen2, 4 USB 2.0, 1 USB3.0, 3 M.2 with M/B/E-key, 1 Nano-SIM Slot, 4 COM ports, 1 SlimSAS, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Up to 96 EU with Intel® Iris® Xe graphics capable of 4K HD graphics resolution and 4 4K displays with 2 HDMI 2.0b/1.4b and two DP1.4 (by type-C Alt mode). Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications. Suitable for application such as AI Edge, Video conference, Surveillance , Machine vision, Broadcasting POS/KIOSK, Automation Robotic, and Medical Instrument.

**Fanless Compact System Solutions**

**Motherboard Solutions**

**SYS-E100-13AD-C**
- 12th Generation Intel® Celeron® Processor 7305E Processor, CPU TDP 15W
  - 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP 1.4 (type-C)
  - 4 USB 3.2 Gen 2
  - Dual 2.5Gbe LAN
  - 0°C to 50°C Operating Temperature
  - 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
  - 4 COM (2 RS-232/242/485, 2 RS-232)
  - 8-bit configurable GPIO via DB9
  - 1 TPM2.0 onboard
  - +12-24V wide range power input
  - Super® X13SAN-C-WOHS

**SYS-E100-13AD-L**
- 12th Generation Intel® Core™ i3-1215UE Processor, CPU TDP 15W
  - 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP 1.4 (type-C)
  - 4 USB 3.2 Gen 2
  - Dual 2.5Gbe LAN
  - 0°C to 50°C Operating Temperature
  - 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
  - 4 COM (2 RS-232/242/485, 2 RS-232)
  - 8-bit configurable GPIO via DB9
  - 1 TPM2.0 onboard
  - +12-24V wide range power input
  - Super® X13SAN-L-WOHS

**SYS-E100-13AD-E**
- 12th Generation Intel® Core™ i3-1245UE Processor, CPU TDP 15W
  - 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP 1.4 (type-C)
  - 4 USB 3.2 Gen 2
  - Dual 2.5Gbe LAN
  - 0°C to 50°C Operating Temperature
  - 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
  - 4 COM (2 RS-232/242/485, 2 RS-232)
  - 8-bit configurable GPIO via DB9
  - 1 TPM2.0 onboard
  - +12-24V wide range power input
  - Super® X13SAN-E-WOHS

**SYS-E100-13AD-H**
- 12th Generation Intel® Core™ i3-1265UE Processor, CPU TDP 15W
  - 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP 1.4 (type-C)
  - 4 USB 3.2 Gen 2
  - Dual 2.5Gbe LAN
  - 0°C to 50°C Operating Temperature
  - 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
  - 4 COM (2 RS-232/242/485, 2 RS-232)
  - 8-bit configurable GPIO via DB9
  - 1 TPM2.0 onboard
  - +12-24V wide range power input
  - Super® X13SAN-H-WOHS

**NEW!**
- Alder Lake-U
- Alder Lake-U
- Alder Lake-U
- Alder Lake-U

**SUPER® X13SAN-E/L/C (with Heatsink)**
- 12th Generation Intel® Core™ i7-1265U Processor, CPU TDP 15W
  - Single SOC FCBGA-1744 supported, CPU TDP supports up to 15W TDP
  - 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
  - Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots
  - Four 4K displays support, 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C Alt Mode)
  - M.2 2242/3042/2280 B-Key (SATA or PCIe x1/USB3/USB2) with nano SIM holder
  - M.2 2230 E-Key (PCIe x1/USB2/CNVI)
  - M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support
  - Dual LAN with Intel® Ethernet Controller I225-IT,TSN, Industrial Grade
  - 1 HD audio header, 1 speaker out header with 3W amplifier
  - 4 COM ports (2-2 RS-232/242/485, 2 RS-232) (via header), 8-bit GPIO (via header)
  - 4 USB 2.0 ports (4 via headers); 4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C), 1 USB3.0 (1 vis box header)
  - 1 SlimSAS and 1 SATA port
  - TPM 2.0 onboard
  - +12-24V wide range power input
  - 0°C to 60°C Operating Temperature

**SUPER® X13SAN-E/L/C-WOHS (without Heatsink)**
- 12th Generation Intel® Core™ i7-1265U Processor, CPU TDP 15W
  - Single SOC FCBGA-1744 supported, CPU TDP supports up to 15W TDP
  - 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
  - Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots
  - Four 4K displays support, 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C Alt Mode)
  - M.2 2242/3042/2280 B-Key (SATA or PCIe x1/USB3/USB2) with nano SIM holder
  - M.2 2230 E-Key (PCIe x1/USB2/CNVI)
  - M.2 2242/2280 M-Key (PCI-E 4.0 x4), NVMe support
  - Dual LAN with Intel® Ethernet Controller I225-IT,TSN, Industrial Grade
  - 1 HD audio header, 1 speaker out header with 3W amplifier
  - 4 COM ports (2-2 RS-232/242/485, 2 RS-232) (via header), 8-bit GPIO (via header)
  - 4 USB 2.0 ports (4 via headers); 4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C), 1 USB3.0 (1 vis box header)
  - 1 SlimSAS and 1 SATA port
  - TPM 2.0 onboard
  - +12-24V wide range power input
  - 0°C to 70°C Operating Temperature

*Microsoft Azure Certified. Please see page 44 for complete list.*
**X11 8th Generation Intel® Mobile Core Processor**

*Intel® Core™ U-Series multi-chip package (MCP FCBGA 1528)*

Supermicro's single processor Socket FCBGA1528 MCP feature the Intel® 8th Generation Core™ i7/i5/i3/ Celeron® processor ultra-low-power U-series with 4 Cores/8 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR4 DRAM in 2 DIMMs, 4 USB 3.1 Gen2, 3 M.2 with B/M/E-key, 1 Nano-SIM Slot, 6 COM ports, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Support for next generation graphics controller, 4K HD graphics resolution and 3 displays with LVDS, HDMI and DP++ ports. Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications.

### Fanless Compact System Solutions

**SYS-E100-9W-H/E/L/C, 3.5" SBC**

- 8th Gen Intel® Core™ i7-8665UE/i5-8365UE/i3-8145UE/Celeron® 4305UE
- 1 HDMI and 1 Display Port
- 4 USB 3.1 Gen2, 4 USB 2.0, 4 COM (RS-232/422/485), 8-bit configurable GPIO via DB9
- 2 Gigabit Ethernet Ports
- TPM 2.0 onboard
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots
- M.2 2242/3042/2280 B-Key (USB 3.0/2.0/1 x 1, SATA Gen3 x 1) with nano SIM holder for LTE/5G
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2) for WIFI/BT
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), for SATA/NVMe SSD
- +12-24V wide range power input
- Lockable 12V DC 60W power adapter
- Fanless Cooling System
- Dimensions: 195 x 44 x 151mm (7.68" x 1.73" x 5.94")
- +12-24VDC wide range power input
- 0°C ~ 50°C Operating Temperature

**SYS-E102-9W-H/E/L/C, 3.5" SBC**

- 8th Gen Intel® Core™ i7-8665UE/i5-8365UE/i3-8145UE/Celeron® 4305UE
- 1 HDMI and 1 Display Port, 4 USB 3.1 Gen2, 4 COM (RS-232/422/485), 8-bit configurable GPIO via DB9
- 2 Gigabit Ethernet Ports
- 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
- 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots
- Single LAN with Intel® Ethernet Controller I210T
- Single LAN with Intel® PHY I219LM LAN controller
- +12-24VDC wide range power input
- 0°C ~ 50°C Operating Temperature

### Motherboard Solutions

**X11SWN-H/-E/-L/-C (with Heatsink)**

- 8th Gen Intel® Core™ i7-8665UE/i5-8365UE/i3-8145UE/Celeron® 4305UE
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots
- Dual LAN with Intel® Ethernet Controller I210T & Intel® PHY I219LM LAN controller
- 3 independent displays, Dual channel 48-bit LVDS, HDMI 1.4, DP++
- M.2 2242/3042/2280 B-Key (USB3.0/2.0/1 x 1, SATA Gen3 x 1) with nano SIM holder for LTE/5G
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2) for WIFI/BT
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), for SATA/NVMe SSD
- 4 USB 3.1 Gen2 ports (4 rear, Type A), 4 USB 2.0 ports (4 header),
- 6 COM (2 RS-232/422/485, 4 RS-232)
- 1 Audio (Line-out/Mic-in), 1 8-bit GPIO header
- TPM 2.0 onboard
- +12-24V wide range power input
- 0°C ~ 60°C Operating Temperature

**X11SWN-H/-E/-L/-C-WOHS (without Heatsink)**

- 8th Gen Intel® Core™ i7-8665UE/i5-8365UE/i3-8145UE/Celeron® 4305UE
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots
- Dual LAN with Intel® Ethernet Controller I210T & Intel® PHY I219LM LAN controller
- 3 independent displays, Dual channel 48-bit LVDS, HDMI 1.4, DP++
- M.2 2242/3042/2280 B-Key (USB3.0/2.0/1 x 1, SATA Gen3 x 1) with nano SIM holder for LTE/5G
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2) for WIFI/BT
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen3 x 1), for SATA/NVMe SSD
- 4 USB 3.1 Gen2 ports (4 rear, Type A), 4 USB 2.0 ports (4 header),
- 6 COM (2 RS-232/422/485, 4 RS-232)
- 1 Audio (Line-out/Mic-in), 1 8-bit GPIO header
- TPM 2.0 onboard
- +12-24V wide range power input
- 0°C ~ 70°C Operating Temperature

* Microsoft Azure Certified. Please see page 44 for complete list.
X10 Intel® Xeon® E5-2600 v4/v3 Processors

Dual Processor System Solutions (Broadwell)

Broadwell Support
All X10 Dual Processor motherboards now support Intel’s latest E5-2600 v4 series (Broadwell) processor for even faster performance. Coupled with the long-life C612 PCH that provides up to 7 years of extended availability, the E5-2600 v4 processor brings unparalleled performance, efficiency, scalability, and flexibility to handle the most demanding embedded and embedded cloud workloads for years to come.

NVMe Capability
Many X10 models now support U.2 (NVMe) storage capabilities for unmatched performance (throughput and latency), true hot-swap capability, and cost-effectiveness that is better than using traditional add-on card based flash storage solutions.

System Solutions

SYS-6018R-MD Compact • 16.9"
- Short-Depth Chassis for X11/X10 DP Solutions
- 500W Platinum Level High-efficiency Power Supply
- 1x 3.5” or 4x 2.5” HDD
- 4x 40x56mm PWM fans
- 2 Full-Height I/O Expansion slot

Motherboard Solutions

X10DRD-i(N)T 22 cores | 145W
- Dual E5-2600 v4/v3 CPUs up to 145W
- 8 DIMM DDR4 2133MHz (Up to 1TB)
- 10 SATA 3.0 HDD/SSD ports
- 4 PCI-E 3.0 x16 + 3 PCI-E 3.0 x8 + 1 PCI-E 3.0 x4 in x8 + 1 PCI-E 2.0 x4 in x8
- 7 USB 3.0, 2 SuperDOM, TPM support
- 13.05” x 10.5” ATX Form Factor
- 10 SATA3 HDD/SSD ports, Optional dual NVMe Ports (-N Option)
### X12 SuperEdge

(For Complete System Only)

4 hot-pluggable systems (nodes) in 2U

#### MODEL

<table>
<thead>
<tr>
<th>Feature</th>
<th>SYS-210TP-HPTR</th>
<th>SYS-210TP-HPTRD</th>
</tr>
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<tr>
<td><strong>Processor Support</strong></td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
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<tr>
<td></td>
<td>Single Socket LGA-4189 (Socket P+) supported TDP up to 270W;</td>
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<tr>
<td><strong>Key Applications</strong></td>
<td>• Enterprise Edge Computing</td>
<td>• Enterprise Edge Computing</td>
</tr>
<tr>
<td></td>
<td>• Telecom DRAN, CRAN, and Edge Core Application</td>
<td>• Telecom DRAN, CRAN, and Edge Core Application</td>
</tr>
<tr>
<td></td>
<td>• Flex-RAN, Open-RAN vBBU</td>
<td>• Flex-RAN, Open-RAN vBBU</td>
</tr>
<tr>
<td></td>
<td>• Multi-Access Edge Computing</td>
<td>• Multi-Access Edge Computing</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Four rear hot-swappable nodes with single CPU socket and 8 DIMM design</td>
<td>• Four rear hot-swappable nodes with single CPU socket and 8 DIMM design</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X12SPT-PT</td>
<td>SUPER® X12SPT-PT</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8 DIMM slots</td>
<td>8 DIMM slots</td>
</tr>
<tr>
<td></td>
<td>Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz</td>
<td>Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP</td>
<td>2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10GbE SFP+ with Intel® X710-BM</td>
<td>2x 10GbE SFP+ with Intel® X710-BM</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 onboard VGA port</td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SuperDoctor® 5; Watch Dog</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SuperDoctor® 5; Watch Dog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>6x 2.5” hot-swap SATA drive bays;</td>
<td>6x 2.5” hot-swap SATA drive bays;</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2000W 100-240VAC/50-60Hz power supply</td>
<td>2000W -48Vdc single output power supply</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty fan(s)</td>
<td>4 heavy duty fan(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U Rackmount</td>
<td>2U Rackmount</td>
</tr>
<tr>
<td></td>
<td>Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”)</td>
<td>Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”)</td>
</tr>
<tr>
<td></td>
<td>Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
<td>Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
</tr>
</tbody>
</table>
## X12 SuperEdge

*(For Complete System Only)*

3 hot-pluggable systems (nodes) in 2U

### MODEL | SYS-210SE-31A | SYS-210SE-31D
--- | --- | ---
**Processor Support** | 3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 205W; | 3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 205W;
**Key Applications** | • Enterprise Edge Computing • Telecom DRAN, CRAN, and Edge Core Application • Flex-RAN, Open-RAN vBBU • Multi-Access Edge Computing | • Enterprise Edge Computing • Telecom DRAN, CRAN, and Edge Core Application • Flex-RAN, Open-RAN vBBU • Multi-Access Edge Computing
**Outstanding Features** | • Three front hot-swappable nodes with single CPU socket and 8 DIMM design • Front access IO design, and tool less serviceability • 16.9” (430mm) chassis depth | • Three front hot-swappable nodes with single CPU socket and 8 DIMM design • Front access IO design, and tool less serviceability • 16.9” (430mm) chassis depth
**Serverboard** | SUPER® X12SPED-F | SUPER® X12SPED-F
**Chipset** | Intel® C621A | Intel® C621A
**System Memory (Max.)** | 8 DIMM slots Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz | 8 DIMM slots Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz
**Expansion Slots** | 2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP | 2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP
**Onboard Storage Controller** | Intel® SATA | Intel® SATA
**Connectivity** | 1x 1GbE RJ45 port(s) | 1x 1GbE RJ45 port(s)
**VGA/Audio** | 1 VGA port | 1 VGA port
**Management** | IPMI 2.0; SuperDoctor® 5 | IPMI 2.0; SuperDoctor® 5
**Drive Bays** | 0x NVMe drive bays; | 0x NVMe drive bays;
**Peripheral Bays** | None | None
**Power Supply** | 2000W AC Redundant PSU | 2000W DC Redundant PSU
**Cooling System** | 4 heavy duty fan(s) | 4 heavy duty fan(s)
**Form Factor** | 2U Rackmount Enclosure: 449 x 88 x 450mm (17.7" x 3.5" x 16.9") Package: 750 x 240 x 590mm (29.5" x 9.5" x 23.2") | 2U Rackmount Enclosure: 449 x 88 x 430mm (17.7" x 3.5" x 16.9") Package: 750 x 240 x 590mm (29.5" x 9.5" x 23.2")
### X12 Hyper-E

**For Complete System Only**

#### Front I/O, DC Power
Optimized for 5G and Telco

#### Front I/O, AC Power
Optimized for 5G and Telco

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-220HE-FTNRD</th>
<th>SYS-220HE-FTNRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Dual Socket LGA-4189 (Socket P) supported</td>
<td>Dual Socket LGA-4189 (Socket P) supported</td>
</tr>
<tr>
<td></td>
<td>TDP up to 270W; 3 UPI up to 11.2GT/s</td>
<td>TDP up to 270W; 3 UPI up to 11.2GT/s</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Cloud Computing</td>
<td>• Cloud Computing</td>
</tr>
<tr>
<td></td>
<td>• Network Function Virtualization</td>
<td>• Network Function Virtualization</td>
</tr>
<tr>
<td></td>
<td>• AI Inference and Machine Learning</td>
<td>• AI Inference and Machine Learning</td>
</tr>
<tr>
<td></td>
<td>• Telecom Micro Data Center</td>
<td>• Telecom Micro Data Center</td>
</tr>
<tr>
<td></td>
<td>• 5G Core and Edge</td>
<td>• 5G Core and Edge</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• NEBS level 3 certified for telecommunication</td>
<td>• NEBS level 3 certified for telecommunication</td>
</tr>
<tr>
<td></td>
<td>• Front I/O, tool-less design</td>
<td>• Front I/O, tool-less design</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X12DHM-6</td>
<td>SUPER® X12DHM-6</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>32 DIMM slots</td>
<td>32 DIMM slots</td>
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<tr>
<td></td>
<td>Up to 8TB ECC LRDIMM, DDR4-3200MHz</td>
<td>Up to 8TB ECC LRDIMM, DDR4-3200MHz</td>
</tr>
<tr>
<td></td>
<td>Up to 8TB Intel® DCPMM, DDR4-3200MHz</td>
<td>Up to 8TB Intel® DCPMM, DDR4-3200MHz</td>
</tr>
<tr>
<td></td>
<td>Up to 8TB ECC RDIMM, DDR4-3200MHz</td>
<td>Up to 8TB ECC RDIMM, DDR4-3200MHz</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>3 PCI-E 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s)</td>
<td>3 PCI-E 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s)</td>
</tr>
<tr>
<td></td>
<td>1 PCI-E 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s)</td>
<td>1 PCI-E 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td>Connectivity</td>
<td>1x 1Gb port(s) with Aspeed 2600</td>
<td>1x 1Gb port(s) with Aspeed 2600</td>
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<tr>
<td></td>
<td>2x 25GbE SFP28 with BCM57414 (optional)</td>
<td>2x 25GbE SFP28 with BCM57414 (optional)</td>
</tr>
<tr>
<td></td>
<td>2x 100GbE QSFP28 with BCM57508 (optional)</td>
<td>2x 100GbE QSFP28 with BCM57508 (optional)</td>
</tr>
<tr>
<td></td>
<td>2x 1GbE RJ45 with Intel® X550-AM2 (optional)</td>
<td>2x 1GbE RJ45 with Intel® X550-AM2 (optional)</td>
</tr>
<tr>
<td></td>
<td>4x 1GbE or 4x 1GbE SFP with Intel® X550-AM4 (optional)</td>
<td>4x 1GbE or 4x 1GbE SFP with Intel® X550-AM4 (optional)</td>
</tr>
<tr>
<td></td>
<td>2x 10GbE RJ45 with Intel® X710-AT2 (optional)</td>
<td>2x 10GbE RJ45 with Intel® X710-AT2 (optional)</td>
</tr>
<tr>
<td></td>
<td>2x 10GbE SFP+ with Intel® X710-BM2 (optional)</td>
<td>2x 10GbE SFP+ with Intel® X710-BM2 (optional)</td>
</tr>
<tr>
<td></td>
<td>4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional)</td>
<td>4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional)</td>
</tr>
<tr>
<td></td>
<td>4x 10GbE SFP+ with Intel® X710 SAT (optional)</td>
<td>4x 10GbE SFP+ with Intel® X710 SAT (optional)</td>
</tr>
<tr>
<td></td>
<td>4x 25GbE RJ45/SFP28 with CX-4 Lx EN Intel® X550-AT2 (optional)</td>
<td>4x 25GbE RJ45/SFP28 with CX-4 Lx EN Intel® X550-AT2 (optional)</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® S; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; SSM; IPMI 2.0; Redfish API</td>
<td>SuperDoctor® S; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; SSM; IPMI 2.0; Redfish API</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>6x 2.5&quot; hot-swap NVMe/SATA/SAS drive bays; 6x 2.5&quot; NVMe hybrid; Optional RAID support via RAID Controller AOC</td>
<td>6x 2.5&quot; hot-swap NVMe/SATA/SAS drive bays; 6x 2.5&quot; NVMe hybrid; Optional RAID support via RAID Controller AOC</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>13000W Redundant -48v DC Power Supplies</td>
<td>20000W or 12000W AC redundant Titanium Level (typical 96%)</td>
</tr>
<tr>
<td>Cooling System</td>
<td>6x 6cm heavy duty fan(s)</td>
<td>6x 6cm heavy duty fan(s)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2U Rackmount</td>
<td>2U Rackmount</td>
</tr>
<tr>
<td></td>
<td>Enclosure: 436.88 x 88.9 x 574mm (17.2&quot; x 3.5&quot; x 22.6&quot;)</td>
<td>Enclosure: 436.88 x 88.9 x 574mm (17.2&quot; x 3.5&quot; x 22.6&quot;)</td>
</tr>
<tr>
<td></td>
<td>Package: 598 x 247 x 938mm (23.5&quot; x 9.7&quot; x 36.9&quot;)</td>
<td>Package: 598 x 247 x 938mm (23.5&quot; x 9.7&quot; x 36.9&quot;)</td>
</tr>
</tbody>
</table>
### Model Comparison

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-110P-FDWTR</th>
<th>SYS-110P-FRDN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Telecom, 5G RAN DU Application • Multi-Access Edge Computing (MEC) • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
<td>• Multi-Access Edge Computing (MEC) • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• 8-DIMM, DDR4 -3200MHz, up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS) • 2x PCI-E 4.0 x16 FHFL slots, 1x PCI-E 4.0 x16 low profile slot • 600W DC Redundant power supplies • 2x 10G Based-T LAN Ports</td>
<td>• 8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS) • 2x PCI-E 4.0 x16 FHFL slots • 600W DC Redundant power supplies • 2x 10G Based-T LAN Ports</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X12SPW-TF</td>
<td>SUPER® X12SPW-TF</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)</td>
<td>8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2x PCI-E 4.0 x16 FHFL slots 1x PCI-E 4.0 x16 low profile slot</td>
<td>2x PCI-E 4.0 x16 FHFL slots</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10G Based-T LAN Ports</td>
<td>2x 10G Based-T LAN Ports</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1x onboard VGA port</td>
<td>1x onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x Internal 2.5” SATA drive bays</td>
<td>2x Internal 2.5” SATA drive bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>600W DC Redundant power supplies</td>
<td>600W DC Redundant power supplies</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>6x (40x40x56 mm) cooling fans</td>
<td>5x (40x40x56 mm) cooling fans</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>1U rackmount (Front I/O) Enclosure: 437 x 429 x 43mm (17.2” x 16.9” x1.7”)</td>
<td>1U rackmount (Front I/O) Enclosure: 437 x 399 x 43mm (17.2” x 15.7” x1.7”)</td>
</tr>
</tbody>
</table>
### X12 5G/Edge

#### New!
3rd Gen Intel® Xeon® Scalable processors Supported

**NEW!**
2U Compact Rackmount

**Front I/O, Rear AC Power**

**Wall-mount, 3 PCI-E Slots**

---

#### MODALITY | SYS-210P-FRDN6T | SYS-110P-FRN2T | SYS-E403-12P-FN2T
--- | --- | --- | ---
**Processor Support** | 3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 250W; | 3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP | 3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports up to 205W |
**Key Applications** | • Cloud Computing • Network Function Virtualization • AI Inference and Machine Learning • 5G Core and Edge | • Multi-Access Edge Computing (MEC) • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML) • Industrial Automation, Retail, Smart Medical Expert Systems | • Multi-Access Edge Computing (MEC) • Universal Customer Premise Equipment (uCPE) • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML) • Industrial Automation, Retail, Smart Medical Expert Systems |
**Outstanding Features** | • Front I/O • Ultra-Short Depth Chassis (300mm) • Redundant 600W -48V DC Power • Up to 4 PCI-E 4.0 I/O Slots (CPU Dependent) | • 8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS) • 2x PCI-E 4.0 x16 FHFL slots • 800W AC Redundant power supplies • 2x 10G Based-T LAN Ports | • Single Socket Intel® Xeon-SP (Ice Lake) up to 32 Cores • 3x PCIe 4.0 x16 slot (FHFL) • 2x 10 Gigabit Ethernet Ports • 4x USB 3.0, 2x USB 2.0 • 4x 2.5” Internal Drive Bays |
**Serverboard** | SUPER® X12SPM-LN6TF | SUPER® X12SPW-TF | SUPER® X12SPW-TF |
**Chipset** | Intel® C621A | Intel® C621A | Intel® C621A |
**System Memory (Max.)** | 8 DIMM slots Up to 2TB ECC RDIMM, DDR4-3200MHz Up to 2TB ECC RDIMM, DDR4-3200MHz | 8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS) | Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots |
**Expansion Slots** | 2 PCI-E 4.0 x16 FHHL (s) PCI-E 4.0 x16 FHHL in certain configurations slot(s) PCI-E 4.0 x16 Low Profile or 2 x8 Low Profile slot(s) PCI-E 4.0 x8 FHHL in certain configurations slot(s) | 2x PCI-E 4.0 x16 FHFL slots | 3 PCI-E4.0 x16 (FHFL) |
**Onboard Storage Controller** | Intel® SATA | Intel® SATA | Intel® C621A |
**Connectivity** | 2x 1/10GbE and 4x 1GbE port(s) | 2x 10G Based-T LAN Ports | 2x 10GbE, 1x Dedicated IPMI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA |
**VGA/Audio** | 1 VGA port | 1x onboard VGA port | One VGA port from ASPEED AST2600 BMC |
**Management** | SuperDoctor® 5; WatchDog; NMI; KVM with dedicated LAN; IPMI 2.0; Redfish API; SSM; SUM | KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog |
**Drive Bays** | 2x 2.5” hot-swap SATA drive bays; | 2x Internal 2.5” SATA drive bays | 4x 2.5” SATA 3.0 Internal Drive Bays |
**Peripheral Bays** | None | N/A | N/A |
**Power Supply** | 600W -48V DC Redundant Power Supplies | 800W AC Redundant power supplies | 600W Multi-output power supply, 80Plus Gold |
**Cooling System** | 4 heavy duty fan(s) | 5x (40x40x56 mm) cooling hot swap fans | 3x 80x38mm PWM hot swap fans |
**Form Factor** | 2U Rackmount | 1U rackmount (Front I/O) | 267 x 109 x 406mm (10.5" x 4.3" x 16") |
**Enclosure** | 436.88 x 88.9 x 298.8mm (17.2" x 3.5" x 11.8") | 437 x 399 x 43mm (17.2" x 15.7" x 1.7") | 437 x 399 x 43mm (17.2" x 15.7" x 1.7") |
## X12 IoT/Embedded

**NEW!**
**Intel® Xeon® D-2700 Processors Supported**

### Key Applications
- **Intel® QuickAssist Technology**
- **Intel® Xeon® Processor D-2712T**
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots
- 2x Internal 2.5” drive bays (2x PCI-E 4.0 NVMe x8 SlimSAS and 1x OCuLink options)
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T
- 1x M.2 M-Key 2242/2280 (SATA/PCI-E 3.0 x4)
- 5x 40x56mm Hot-swap Counter-rotation PWM Fans
- Redundant 800 W, 100-240 Vac

### Outstanding Features
- Intel® Xeon® Processor D-2712T
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots
- 2x Internal 2.5” drive bays (2x PCI-E 4.0 NVMe x8 SlimSAS and 1x OCuLink options)
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T
- 1x M.2 M-Key 2242/2280 (SATA/PCI-E 3.0 x4)
- 5x 40x56mm Hot-swap Counter-rotation PWM Fans
- Redundant 600 W, -48 Vdc

### Serverboard
- **SYS-110D-4C-FRAN8TP**
- **SYS-110D-8C-FRAN8TP**
- **SYS-110D-16C-FRAN8TP**
- **SYS-110D-20C-FRAN8TP**
- **SYS-110D-4C-FRDN8TP**
- **SYS-110D-8C-FRDN8TP**
- **SYS-110D-16C-FRDN8TP**
- **SYS-110D-20C-FRDN8TP**

### Processor Support
- Intel® Xeon® Processor D-2700 Series; Single Socket FCBGA-2579 supported;
- -4C: TDP up to 65W;
- -8C: TDP up to 80W;
- -16C: TDP up to 100W;
- -20C: TDP up to 120W

### Chipset
- Intel® SoC

### System Memory (Max.)
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots

### Expansion Slots
- x PCIe 4.0 x 16 FHFL

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T

### VGA/Audio
- 1 VGA port

### Management
- IPMI 2.0; SuperDoctor® 5

### Drive Bays
- 2x 2.5” SATA/PCIe drive bays;

### Peripheral Bays
- None

### Power Supply
- Redundant 800W Platinum level (94%)

### Cooling System
- 5 heavy duty fan(s)

### Form Factor
- 1U Rackmount
- Enclosure: 437 x 43 x 399mm (17.2” x 1.7” x 15.7”)
- Package: 680 x 200 x 605mm (26.7” x 7.9” x 23.8”)

---

*Embedded/IoT Building Block Solutions - September 2022*
### X12 IoT/Embedded

**NEW!**

Intel® Xeon® D-2700 Processors Supported

---

**Processor Support**
- Intel® Xeon® Processor D-1700 Series
  - Single Socket FCBGA-2227 supported
  - 4C: TDP up to 46W;
  - 8C: TDP up to 67W;
  - 10C: TDP up to 67W;

**Key Applications**
- Intel® QuickAssist Technology
  - Gateway
  - Firewall
  - Retail Applications

**Outstanding Features**
- Intel® Xeon® Processor D-1700 SERIES
- Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots
- 4x GBE and 2x 25G SFP28
- 1x Internal 3.5” or 4x Internal 2.5” drive bays
- 1x M.2 M-Key 2280 (SATA/PCI-E 3.0 x4) 1x M.2 B-Key 2280/3042/3052 (USB/SATA/PCI-E 3.0 x2) 1x M.2 E-Key 2230 (PCI-E 3.0 x1)
- 3x 40x28mm 4-PIN PWM fans
- 200W Low-noise AC-DC power supply
- 1x VGA, 2 USB 3.0

**Serverboard**
- 4C: SUPER® X12SDV-4C-SP6F
- 8C: SUPER® X12SDV-8C-SP6F
- 10C: SUPER® X12SDV-10C-SP6F
- 4CN6P: SUPER® X12SDV-4C-SP6F
- 8CN6P: SUPER® X12SDV-8C-SP6F
- 10CN6P: SUPER® X12SDV-10C-SP6F

**Chipset**
- Intel® SoC

**System Memory (Max.)**
- Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots

**Expansion Slots**
- x PCIe 4.0 x 16 FHHL

**Onboard Storage Controller**
- Intel® SATA

**Connectivity**
- 4x GbE and 2x 25G SFP28

**VGA/Audio**
- 1 VGA port

**Management**
- IPMI 2.0; SuperDoctor® 5
  - IPMI 2.0; SSM Agent; SuperDoctor® 5; Watch Dog

**Drive Bays**
- 4x 2.5" SATA/PCIe drive bays;

**Peripheral Bays**
- None

**Power Supply**
- 1U 200W Multi-output 80Plus Gold Power Supply

**Cooling System**
- 3 heavy duty fan(s)

**Form Factor**
- Mini-1U Rackmount
  - Enclosure: 437 x 43 x 249mm (17.2" x 1.7" x 9.8")
  - Package: 655 x 155 x 465mm (25.8" x 6.1" x 18.3")
- Mini-1U Rackmount
  - Enclosure: 254 x 43 x 226mm (10" x 1.7" x 8.9")
  - Package: 381 x 276 x 142mm (15" x 10.87" x 5.59")

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-510D-4C-FN6P</th>
<th>SYS-510D-8C-FN6P</th>
<th>SYS-510D-10C-FN6P</th>
<th>SYS-E300-12D-4CN6P</th>
<th>SYS-E300-12D-8CN6P</th>
<th>SYS-E300-12D-10CN6P</th>
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<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon®</td>
<td>Intel® Xeon®</td>
<td>Intel® Xeon®</td>
<td>Intel® Xeon®</td>
<td>Intel® Xeon®</td>
<td>Intel® Xeon®</td>
</tr>
<tr>
<td><strong>Key Apps</strong></td>
<td>Intel® QuickAssist</td>
<td>Intel® QuickAssist</td>
<td>Intel® QuickAssist</td>
<td>Intel® QuickAssist</td>
<td>Intel® QuickAssist</td>
<td>Intel® QuickAssist</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>Intel® Xeon® Processor D-1700 SERIES</td>
<td>Intel® Xeon® Processor D-1700 SERIES</td>
<td>Intel® Xeon® Processor D-1700 SERIES</td>
<td>Intel® Xeon® Processor D-1700 SERIES</td>
<td>Intel® Xeon® Processor D-1700 SERIES</td>
<td>Intel® Xeon® Processor D-1700 SERIES</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X12SDV-4C-SP6F</td>
<td>SUPER® X12SDV-8C-SP6F</td>
<td>SUPER® X12SDV-10C-SP6F</td>
<td>SUPER® X12SDV-4C-SP6F</td>
<td>SUPER® X12SDV-8C-SP6F</td>
<td>SUPER® X12SDV-10C-SP6F</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
</tr>
<tr>
<td><strong>System Memory</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expan</strong></td>
<td>x PCIe 4.0 x 16 FHHL</td>
<td>x PCIe 4.0 x 16 FHHL</td>
<td>x PCIe 4.0 x 16 FHHL</td>
<td>x PCIe 4.0 x 16 FHHL</td>
<td>x PCIe 4.0 x 16 FHHL</td>
<td>x PCIe 4.0 x 16 FHHL</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>4x GbE and 2x 25G SFP28</td>
<td>4x GbE and 2x 25G SFP28</td>
<td>4x GbE and 2x 25G SFP28</td>
<td>4x GbE and 2x 25G SFP28</td>
<td>4x GbE and 2x 25G SFP28</td>
<td>4x GbE and 2x 25G SFP28</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>IPMI 2.0; SuperDoctor® 5</td>
<td>IPMI 2.0; SuperDoctor® 5</td>
<td>IPMI 2.0; SuperDoctor® 5</td>
<td>IPMI 2.0; SuperDoctor® 5</td>
<td>IPMI 2.0; SuperDoctor® 5</td>
<td>IPMI 2.0; SuperDoctor® 5</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>4x 2.5&quot; SATA/PCIe drive bays;</td>
<td>4x 2.5&quot; SATA/PCIe drive bays;</td>
<td>4x 2.5&quot; SATA/PCIe drive bays;</td>
<td>4x 2.5&quot; SATA/PCIe drive bays;</td>
<td>4x 2.5&quot; SATA/PCIe drive bays;</td>
<td>4x 2.5&quot; SATA/PCIe drive bays;</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>3 heavy duty fan(s)</td>
<td>3 heavy duty fan(s)</td>
<td>3 heavy duty fan(s)</td>
<td>3 heavy duty fan(s)</td>
<td>3 heavy duty fan(s)</td>
<td>3 heavy duty fan(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-1U Rackmount</td>
<td>Mini-1U Rackmount</td>
<td>Mini-1U Rackmount</td>
<td>Mini-1U Rackmount</td>
<td>Mini-1U Rackmount</td>
<td>Mini-1U Rackmount</td>
</tr>
</tbody>
</table>

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*Embedded/IoT Building Block Solutions - September 2022*
# X12 IoT/Embedded

**NEW!**

Xeon® W-1200, 10th Gen. Core™ i
Compact 1U Embedded System

Xeon® W-1200, 10th Gen. Core™ i
Mini-1U Embedded System

## Model Comparison

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-110C-FHN4T</th>
<th>SYS-E300-12C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor, LGA-1200, W480E Chipset, CPU TDP support up to 125W TDP</td>
<td>Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor, LGA-1200, W480E Chipset, CPU TDP support up to 65W TDP</td>
</tr>
</tbody>
</table>
| Key Applications | • Edge Computing Server  
• Video processing and streaming  
• Software Defined WAN  
• uCPE Network Appliance  
• Network Security  
• Security Appliance and Video Surveillance | • Surveillance Security Server  
• AI Inference and Machine Learning  
• Digital Signage  
• Medical Applications |
| Outstanding Features | • Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor  
• IPMI (Intelligent Platform Management Interface)  
• 4 USB 3.2  
• 2 DP, DVI-I, VGA, Audio  
• PCIe 3.0 x16 | • Intel® 10th Gen Comet Lake  
• Embedded long-life  
• 1U Box Edge Devices  
• TPM onboard |

### Processor Support

**SYS-110C-FHN4T**

- Processor: Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor, LGA-1200, W480E Chipset
- CPU TDP support up to 125W TDP

**SYS-E300-12C**

- Processor: Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor, LGA-1200, W480E Chipset
- CPU TDP support up to 65W TDP

### Key Applications

- **SYS-110C-FHN4T**
  - Edge Computing Server
  - Video processing and streaming
  - Software Defined WAN
  - uCPE Network Appliance
  - Network Security
  - Security Appliance and Video Surveillance

- **SYS-E300-12C**
  - Surveillance Security Server
  - AI Inference and Machine Learning
  - Digital Signage
  - Medical Applications

### Outstanding Features

- **SYS-110C-FHN4T**
  - Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor
  - IPMI (Intelligent Platform Management Interface)
  - 4 USB 3.2
  - 2 DP, DVI-I, VGA, Audio
  - PCIe 3.0 x16

- **SYS-E300-12C**
  - Intel® 10th Gen Comet Lake
  - Embedded long-life
  - 1U Box Edge Devices
  - TPM onboard

### Serverboard

- **SYS-110C-FHN4T**: SUPER® X12SCZ-TLN4F
- **SYS-E300-12C**: SUPER® X12SCV-LVDS

### Chipset

- **SYS-110C-FHN4T**: Intel® W480E chipset
- **SYS-E300-12C**: Intel® W480E chipset

### System Memory

- **SYS-110C-FHN4T**: Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots
- **SYS-E300-12C**: Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots

### Expansion Slots

- **SYS-110C-FHN4T**: 1 PCI-E 3.0 x16
- **SYS-E300-12C**: 1 PCI-E 3.0 x16

### Onboard Storage Controller

- **SYS-110C-FHN4T**: Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **SYS-E300-12C**: Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1

### Connectivity

- **SYS-110C-FHN4T**: 1 RJ45 dedicated IPMI, 2x RJ45 10GBase-T, 2x RJ45 GbE
- **SYS-E300-12C**: 2x RJ45 GbE LAN

### VGA/Audio

- **SYS-110C-FHN4T**: ASPEED AST2500 BMC, Intel® HD Graphics, ALC 888S HD Audio
- **SYS-E300-12C**: Intel® HD Graphics, ALC 888S HD Audio

### Management

- **SYS-110C-FHN4T**: IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- **SYS-E300-12C**: AMT, NMI, SuperDoctor® 5, vPro, Watchdog

### Drive Bays

- **SYS-110C-FHN4T**: 2x 2.5” hot swap HDD (SATA3)
- **SYS-E300-12C**: 2x 2.5” fixed drive bay with bracket (when AOC area is not occupied) Or 1x 2.5” fixed drive bay with AOC support

### Peripheral Bays

- **SYS-110C-FHN4T**: N/A
- **SYS-E300-12C**: N/A

### Power Supply

- **SYS-110C-FHN4T**: 200W Low Noise AC-DC power supply with PFC, Gold Certified
- **SYS-E300-12C**: 180W DC Power Adapter

### Cooling System

- **SYS-110C-FHN4T**: 4x 40x28mm châssis fan 4-PIN PWM FAN
- **SYS-E300-12C**: 2 x 4028 mm 4 PIN PWM FAN

### Form Factor

- **SYS-110C-FHN4T**: 437 x 43 x 287mm (17.2” x 1.7” x 11.3”)
- **SYS-E300-12C**: 254 x 43 x 226mm (10” x 1.7” x 8.9”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019P-FHN2T</th>
<th>SYS-E403-9P-FN2T</th>
<th>SYS-1019P-FRDN2T</th>
<th>SYS-1019P-FRDN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP.</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP.</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Multi-Access Edge Computing (MEC) • Centralized/Cloud Radio Access Network (C-RAN) • Universal Customer Premise Equipment (uCPE), Advanced Network Security • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML) • Retail, Smart Medical Expert Systems</td>
<td>• Multi-Access Edge Computing (MEC) • Universal Customer Premise equipment (uCPE) • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
<td>• Multi-Access Edge Computing (MEC) • Universal Customer Premise Equipment (uCPE), Advanced Network Security • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
<td>• Multi-Access Edge Computing (MEC) • Centralized/Cloud Radio Access Network (C-RAN) • Universal Customer Premise Equipment (uCPE), Advanced Network Security • Network Function Virtualization (NFV) • Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• 2x PCI-E 3.0 x 16 FHFL • 2x 10 Gigabit Ethernet Ports • 2x USB 3.0, 2x USB 2.0 • 2x 2.5&quot; Hot Swap SATA3 Drive Bays, 2x 2.5&quot; Internal SATA3 Drive Bays (optional)</td>
<td>• 2x PCI-E 3.0 x 16 FHFL • 2x 10 Gigabit Ethernet Ports • 4x USB 3.0, 2x USB 2.0 • 4x 2.5&quot; Internal Drive Bays</td>
<td>• 2x PCI-E 3.0 x 16 FHFL • 2x 10 Gigabit Ethernet Ports • 2x USB 3.0, 2x USB 2.0 • 600W DC Redundant Power Supply • 5x Hot-Swappable Fan Tray</td>
<td>• 2x PCI-E 3.0 x 16 FHFL • 2x 10 Gigabit Ethernet Ports • 2x USB 3.0, 2x USB 2.0 • 800W AC Redundant Power Supply • 5x Hot-Swappable Fan Tray</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
<td>SUPER® X11SPW-TF</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
<td>Intel® C622 chipset</td>
</tr>
<tr>
<td>System Memory</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2x PCI-E 3.0 x 16 FHFL</td>
<td>1x PCI-E 3.0 x 16 + 2x PCI-E 3.0 x 8, or 2x PCI-E 3.0 x 16 (FHFL, 300mm)</td>
<td>2x PCI-E 3.0 x 16 (FHFL)</td>
<td>2x PCI-E 3.0 x 16 (FHFL)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® C622 controller; RAID 0,1,5,10</td>
<td>Intel® SATA</td>
<td>Intel® C622 controller; RAID 0,1,5,10</td>
<td>Intel® C622 controller; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 2x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 2x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 2x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA</td>
<td>2x 10GbE, 1x Dedicated IPMI LAN, 2x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>Aspeed AST2500 BMC</td>
<td>Aspeed AST2500 BMC</td>
<td>Aspeed AST2500 BMC</td>
<td>Aspeed AST2500 BMC</td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5&quot; Hot Swap SATA3 Drive Bays, 2x 2.5&quot; Internal SATA3 Drive Bays (optional)</td>
<td>4x 2.5&quot; SATA3 Internal Drive Bays</td>
<td>2x Fixed 2.5&quot; Drive Bays</td>
<td>2x Fixed 2.5&quot; Drive Bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 500W multi-output Platinum Level power supply w/ PMbus</td>
<td>600W multi-output Gold Level power supply</td>
<td>600W DC Redundant Power Supplies</td>
<td>800W AC Redundant Power Supplies</td>
</tr>
<tr>
<td>Cooling System</td>
<td>6x 40x28mm PWM fans</td>
<td>3x 80x38mm PWM hot swap fans</td>
<td>5x 40x56 Hot-Swappable Fan Tray</td>
<td>5x 40x56 Hot-Swappable Fan Tray</td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 381mm (17.2&quot; x 1.7&quot; x 15&quot;)</td>
<td>267 x 109 x 406mm (10.5&quot; x 4.3&quot; x 16&quot;)</td>
<td>437 x 43 x 399mm (17.2&quot; x 1.7&quot; x 15.7&quot;)</td>
<td>437 x 43 x 399mm (17.2&quot; x 1.7&quot; x 15.7&quot;)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details

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**IoT/Embedded**

Cascade Lake & Cascade Lake Refresh

Compact Front-Access

1U WIO System

Cascade Lake Wall-mount System with 3 PCI-E Slots

Compact System with 600W DC Redundant Power and Hot Swappable Fan Tray

Compact System with 800W AC Redundant Power and Hot Swappable Fan Tray

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**Embedded/IoT Building Block Solutions - September 2022**
## Embedded/IoT Building Block Solutions - September 2022

### Short Depth

**MODEL** | **SYS-5019D-RN8TP** | **SYS-110A-24C-RN10SP** | **SYS-110A-16C-RN10SP**
--- | --- | --- | ---
**Processor Support** | Intel® Skylake Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W† BIOS version 2.0 or above is required | Intel® Atom® Processor, Socket FCBGA-2106 supported, CPU TDP support 83W TDP | Intel® Atom® Processor, Socket FCBGA-2106 supported, CPU TDP support 71W TDP
**Key Applications** | Network Security Appliance, SDN-WAN, vCPE controller box, NFV Edge Computing Server, Virtualization Server, IoT Edge Computing | Network Appliance, Embedded IoT Computing, Software Defined WAN (SD-WAN), Network Function Virtualization (NFV), Hyper Converged Infrastructure, Network Security Appliance | Network Appliance, Embedded IoT Computing, Software Defined WAN (SD-WAN), Network Function Virtualization (NFV), Hyper Converged Infrastructure, Network Security Appliance
**Outstanding Features** | Built in Intel® QAT up to 40Gbps Crypto/Compression, Supports up to 8C high Density SKL-D SoC for Retail MEC, 4 DDR4 DIMMs (ECC LRDIMM or ECC RDIMM) with up to 2133 MHz, Max memory capacity up to 512GB on LRDIMM, 8 LAN ports support (2x 10G SFP+, 2x 10G Base-T, 4x 1GbE) | Cost Effective 1U Short-Depth Chassis and 2x 2.5” hot swap drive bays, Cost Effective 1U Short-Depth Chassis and 2x 2.5” hot swap drive bays |
**Chipset System On Chip** | | System On Chip, System On Chip |
**System Memory (Max.)** | DDR4 up to 2933MT/s up to 256GB RDIMM, up! 64GB for ECC/Non-ECC UDIMM | DDR4 up to 2933MT/s up to 256GB RDIMM, up! 64GB for ECC/Non-ECC UDIMM | DDR4 up to 2933MT/s up to 256GB RDIMM, up! 64GB for ECC/Non-ECC UDIMM
**Expansion Slots** | 1 PCI-E 3.0 x8, M-Key M.2: 2280/42, B-Key M.2 2280/3042, E-Key M.2 2230 | 1 PCI-E 3.0 x8, M-Key M.2: 2280/42, B-Key M.2 2280/3042, E-Key M.2 2230 | 1 PCI-E 3.0 x8, M-Key M.2: 2280/42, B-Key M.2 2280/3042, E-Key M.2 2230
**Onboard Storage Controller** | SoC controller for 4 SATA3 (6 Gbps) ports | SoC controller for 6 ports | SoC controller for 6 ports
**Connectivity** | 2x 10G SFP+, 2x 10G Based-T, 4x 1GbE, 1x dedicated IPMI LAN, 2 USB 3.0 | 8 x 1GbE and 2x 25GbE SFP28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0 | 8 x 1GbE and 2x 25GbE SFP28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0
**VGA/Audio** | Aspeed AST2500 BMC | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SUM, SuperDoctor® 5, Watchdog
**Management** | IPMI 2.0 | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SUM, SuperDoctor® 5, Watchdog
**Drive Bays** | 2x hot-swap 2.5” drive trays | 2x hot-swap 2.5” drive trays | 2x hot-swap 2.5” drive trays
**Peripheral Bays** | N/A | N/A | N/A
**Power Supply** | 300W AC Redundant power supplies | 300W AC Redundant power supplies | 300W AC Redundant power supplies
**Cooling System** | 3x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM) | 3x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM) | 3x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)
**Form Factor** | 437 x 43 x 249mm (17.2” x 1.7” x 9.8”) | 437 x 43 x 249mm (17.2” x 1.7” x 9.8”) | 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)

* Please check with your Supermicro sales representative and website for compatibility and configuration details
**IoT/Embedded**

**Intel® Gen 8th Coffee Lake-S Compact 1U Embedded System**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019C-HTN2</th>
<th>SYS-1019C-FHTN8</th>
<th>SYS-5019C-MHN2</th>
<th>SYS-5019D-4C-FN8TP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® 8th/9th Generation Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/ Celeron® series Processor, Intel® Xeon® E-2100 series and E-2200 series Processor.</td>
<td>Intel® 8th/9th Generation Core™ i3 Processors, Intel® Xeon® E-2100/2200 processor Server.</td>
<td>Intel® 8th/9th Generation Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/ Celeron® series Processor, Intel® Xeon® E-2100 and E-2200 Processor.</td>
<td>Intel® Xeon® D-2123IT 4C, 60W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Digital Signage • DVR/NVR • POS • Office Server • Network Security • Security Appliance and Video Surveillance</td>
<td>• uCPE Network Appliance • Network Security Appliance • Virtualization Server</td>
<td>• General purpose, SMB, Web Hosting • Application and data serving • Archiving, Mail/Finance, Security</td>
<td>• Network Security Appliance • SDN-WAN, uCPE controller box • NFV Edge Computing Server • Virtualization Server • IoT Edge Computing</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• 2x 2.5” Hot Swap SATA3 Drive Bay • M.2 (M key), Onboard TPM • Coffee Lake-5, Xeon® E-2100, 8th Gen Core i3, Pentium, Celeron</td>
<td>• 8th/9th Generation Intel® Core™ i3 Processors, Intel® Xeon® E-2100/2200 processor Server.</td>
<td>• 8 LAN ports support(2x 10G SFP+, 2x 10GbE Base-T, 4x GbE) • 1 M.2 slot M key for SSD, 2242/80, 1 M.2 8 Key for SSD/ WAN card, 1 Mini-PCI-E with mSATA Support</td>
<td>Intel® Xeon® D-2123IT, 4 Cores, 60W</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SCZ-F</td>
<td>SUPER® X11SCM-LN8F</td>
<td>SUPER® X11SCZ-F</td>
<td>SUPER® X11SDV-4C-TP8F</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C246 chipset</td>
<td>Intel® C246 chipset</td>
<td>Intel® C246 chipset</td>
<td>System On Chip</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>4x DDR4 DIMM 512 GB up to 2667MHz RDIMM or 256GB RDIMM, ECC/non-ECC</td>
<td></td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>PCI-E 3.0 x 16 half height half length expansion slot; M.2 (M key, 22110/80, PCI-E3.0 x4/SATA)</td>
<td>PCI-E 3.0 x 16 full height full length expansion slot (limited to two drives populated);</td>
<td>1 PCI-E 3.0 x 16</td>
<td>1 M.2 slot M key for SSD, 2242/80, 1 M.2 8 Key for SSD/ WAN card, 1 Mini-PCI-E with mSATA Support</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® C246 controller for 2 SATA3 (6 Gbps) ports; RAID 0, 1, 5;</td>
<td>Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10;</td>
<td>Intel® C246 controller for 5 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10;</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>Dual GbE LAN, 1 dedicated IPMI, 4 USB3.1 (3 TYPE A and 1 TYPE C)</td>
<td>8x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB3.1, 2 USB2.0</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td></td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NVMe, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” hot swap HDD (SATA3)</td>
<td>2x 2.5” hot swap. 2x 2.5” Internal(SSD recommended) SATA3 drive bays</td>
<td>4x 3.5” hot-swap SAS/SATA</td>
<td>1x 3.5” or 4x 2.5”</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1x Slim DVD-ROM Drive</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>200W Low Noise AC-DC power supply with PFC, Gold Certified</td>
<td>350W AC-DC multiple output Platinum Level power supply</td>
<td>350W AC-DC multiple output Platinum Level power supply</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4x 40x28mm chasss fan 4-PIN PWM FAN</td>
<td>4x 40x28mm PWM fan</td>
<td>5x 40x28mm PWM fan, 1x 40x28mm PWM fan</td>
<td>3x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>437 x 43 x 287mm (17.2” x 1.7” x 11.3”); 437 x 43 x 381mm (17.2” x 1.7” x 15”); 437 x 43 x 483mm (17.2” x 1.7” x 19.8”)</td>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### Embedded Weatherproof Intel® Xeon® D Server

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E403-9D-16C-IPD2</th>
<th>SYS-E403-9D-14CN-IPD2</th>
<th>SYS-E403-9D-16C-IP</th>
<th>SYS-E403-9P-16C-IP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® Xeon® D-2177NT Processor, 16 Cores, 28 Threads, 1.9 GHz, 105W</td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>- 5G Radio Access Network (RAN) - Multi-Access Edge Computing (MEC) - Edge AI Inference - Vehicle to Everything (C-V2X/V2V) - Virtualized Functions and Services</td>
<td>- Multi-Access Edge Computing (MEC) - Universal Customer Premise Equipment (uCPE) - Network Function Virtualization (NFV) - Edge Computing Vehicle to Everything Application (C-V2X/V2V)</td>
<td>- Multi-Access Edge Computing (MEC) - Universal Customer Premise Equipment (uCPE) - Network Function Virtualization (NFV) - Edge Computing Vehicle to Everything Application (C-V2X/V2V)</td>
<td>- Multi-Access Edge Computing (MEC) - Universal Customer Premise Equipment (uCPE) - Network Function Virtualization (NFV) - Edge Computing Vehicle to Everything Application (C-V2X/V2V)</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SDW-16C-TP13F+</td>
<td>SUPER® X11SDW-14CN-TP13F+</td>
<td>X11SDW-16C-TP13F</td>
<td>SUPER® X11SDW-16C-TP13F+</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td>4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td>4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td>4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Design Capacity: -40Vdc to -59Vdc, 900W</td>
<td>Design Capacity: -44Vdc to -59Vdc, 900W</td>
<td>600W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold</td>
<td>1200W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>3x 80x80mm PWM redundant fans (Server), 6x 80x38mm IP68 Fans (Cabinet)</td>
<td>3x 80x80mm PWM redundant fans (Server), 6x 80x38mm IP68 Fans (Cabinet)</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>319 x 821 x 258mm (12.56” x 32.31” x 10.16”)</td>
<td>319 x 821 x 258mm (12.56” x 32.31” x 10.16”)</td>
<td>516 x 650 x 450mm (20.3” x 25.6” x 17.7”)</td>
<td>516 x 650 x 450mm (20.3” x 25.6” x 17.7”)</td>
</tr>
</tbody>
</table>
## MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019D-FN8TP</th>
<th>SYS-5019A-12TN4</th>
<th>SYS-5019A-FTN4</th>
<th>AS-5019D-FTN4</th>
</tr>
</thead>
</table>

### Processor Support
- **Intel® Xeon® D-2146NT SoC, 2.3GHz, 8 Cores, 80W**
  - † BIOS version 2.0 or above is required
- **Intel® Atom™ C3850, SoC, 12 Cores, 25W**
- **Intel® Atom™ C3758, SoC, 8 Cores, 25W**
- **AMD EPYC™ 3251 Processor**

### Key Applications
- • Network Security Appliance
- • SDN-WAN, vCPE controller box
- • NFV Edge Computing Server
- • Virtualization Server
- • Low Power, Low Cost Applications
- • Intel® QAT up to 20Gbps crypto + 20Gbps compression
- • Intel® Quick Assist Technology
- • 256GB DDR4 ECC RDIMM/64GB ECC)

### Outstanding Features
- • 8 LAN ports support (2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)
- • 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini-PCI-E with mSATA Support
- • Short Depth
- • Low Power
- • Intel® OAT up to 20Gbps crypto + 20Gbps compression
- • AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread
- • 1 M.2 M-key for NVMe, 2242/80
- • 1 PCIe3.0 x16 expansion for AOC
- • Up to 2x 3.5" or 4x 2.5" SATA3 device
- • Dedicated management port

### Serverboard
- **SUPER® X11SDV-8C-TP8F**
- **SUPER® A2SDi-LN4F**
- **SUPER® A2SDi-8C-HLN4F**
- **SUPER® M11SDV-8C-LN4F**

### Chipset System On Chip System on Chip System on Chip System on Chip

### System Memory (Max.)
- 4x DDR4 DIMM 512 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC
- Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots
- Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz, in 4 DIMM slots
- 512 GB up to 2666MHz DDR4 LRDIMM or 256GB RDIMM

### Expansion Slots
- 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots,
- 1 PCI-E 3.0 x4, 1 mini-PCI-E with mSATA supports (half card only), 1 M.2 M key for SSD 2242/80, PCI-E SATA3.0)
- 1 PCI-E 3.0 x16

### Onboard Storage Controller
- SoC controller for 4 SATA3 (6 Gbps) ports
- SoC controller for 4 SATA3 (6 Gbps) ports
- SoC controller for 4 SATA3 (6 Gbps) ports
- 4x 1GBe, 1x Dedicated IPMI 2 USB 3.0 1x VGA & Onboard TPM Header

### Connectivity
- 2 x 10G SFP+, 2 x 1GBase-T, 4 x GbE LAN, 4x 1GBase-T LAN, 1x dedicated IPMI LAN, 2x USB 3.0
- 4x 1Gbe LAN, 1 dedicated management port, 2 USB3.0
- 4x 1Gbe LAN, 1 dedicated IPMI LAN, 2x USB 2.0
- 1x Dedicated IPMI 1x VGA & Onboard TPM Header

### VGA/Audio
- VGA via BMC
- VGA via BMC
- VGA via BMC
- 1 VGA; 1 Aspeed AST2500 BMC

### Management
- IPMI 2.0
- IPMI 2.0
- IPMI 2.0
- 1x Dedicated IPMI 1x VGA & Onboard TPM Header

### Drive Bays
- 1x 3.5" or 4x 2.5"
- 1x 3.5" or 4x 2.5" HDD
- 1x 3.5" or 4x 2.5" HDD
- Up to 2x 3.5" or 4x 2.5" SATA3 device 2.5"

### Peripheral Bays
- N/A
- N/A
- N/A
- N/A

### Power Supply
- 200W Low Noise AC-DC power supply with PFC
- 200W Low Noise AC-DC power supply with PFC
- 200W Low Noise AC-DC power supply with PFC
- 200W compact power supply

### Cooling System
- 3x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)
- 2x 40x28mm 4-PIN PWM Fan (FAN-0065L4, 13K RPM)
- Optional 1x 40x28mm 4-PIN PWM Fan
- Active CPU fan, 40mm chassis fan

### Form Factor
- 437 x 43 x 249mm (17.2" x 1.7" x 9.8")
- 437 x 43 x 249mm (17.2" x 1.7" x 9.8")
- 437 x 43 x 249mm (17.2" x 1.7" x 9.8")
- 437 x 43 x 249mm (17.2" x 1.7" x 9.8")

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* Please check with your Supermicro sales representative and website for compatibility and configuration details.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019A-FN5T</th>
<th>SYS-5019A-FTN10P</th>
<th>SYS-5018A-LTN4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom™ Processor Denverton C3958, SoC, 16 Cores, 31W</td>
<td>Intel® Atom™ Processor C3758, SoC, 8 Cores</td>
<td>Intel® Atom™ Processor C2358, Single Socket FCBGA1283 supported, CPU TDP support up to 7W TDP</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Network Security Appliance</td>
<td>• Edge Computing Server</td>
<td>• Network Security Appliance</td>
</tr>
<tr>
<td></td>
<td>• Edge Computing Server</td>
<td>• Virtualization Server</td>
<td>• FireWall Applications</td>
</tr>
<tr>
<td></td>
<td>• Virtualization Server</td>
<td>• Network Security Appliance</td>
<td>• Virtual Router</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Intel® Quick Assist Technology</td>
<td>• Intel® Quick Assist Technology ( QAT)</td>
<td>• Embedded-long-life to 2020</td>
</tr>
<tr>
<td></td>
<td>• 256GB DDR4 ECC RDIMM/64GB ECC UDIMM</td>
<td>• Intel® Single-Root I/O Virtualization (SR-IOV)</td>
<td>• DDR3 up to 1333MHz up to 16 GB ECC SODIMM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Compact form factor less than 10&quot; depth</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Low Power</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER•* A2SDV-16C-TLNSF</td>
<td>SUPER•* A2SDV-8C-LN10PF</td>
<td>SUPER•* A15RI-235BF</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; Or 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8, 1 x M.2 (M key for 5SSD, 2242/80, PCI-E3.0 x2 or SATA3), 1 B-Key (3042/2280 PCI-E 3.0 x2/SATA/USB)</td>
<td>1 PCI-E 3.0 x4</td>
<td>1 PCI-E 2.0 x8</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 5 SATA3 (6 Gbps) ports; RAID</td>
<td>SoC controller for 2 SATA2 (3 Gbps) ports; RAID 2SATA3 (6 Gbps)</td>
</tr>
<tr>
<td>Connectivity</td>
<td>4x 10GbE LAN, 1x 1GbE LAN port (IPMI shared LAN), 4 USB 3.0</td>
<td>8x RJ45 Gbe LAN, 2x SFP Gbe LAN, 1 dedicated IPMI RJ45 Gbe LAN, 2x USB 3.0, 1 VGA</td>
<td>4x 1GbE LAN, 1 dedicated IPMI LAN, 2x USB 3.0, 1x VGA</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>Aspeed AST2400 BMC</td>
<td>Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI 2.0</td>
<td>IPMI2.0, NMI, SuperDoctor* 5, Watchdog</td>
<td>IPMI2.0, NMI, SuperDoctor* 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 3.5&quot; or 2x 2.5&quot; HDD</td>
<td>1x 3.5&quot; or 4x 2.5&quot; internal drive bays</td>
<td>1x 3.5&quot; or 4x 2.5&quot; internal drive bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>1U 200W Multi-output power supply Gold level w/20pin</td>
<td>1U 200W Multi-output power supply Gold level w/20pin</td>
</tr>
<tr>
<td>Cooling System</td>
<td>3x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM)</td>
<td>3x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM)</td>
<td>2x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 249mm (17.2&quot; x 1.7&quot; x 9.8&quot;)</td>
<td>437 x 43 x 249mm (17.2&quot; x 1.7&quot; x 9.8&quot;)</td>
<td>437 x 43 x 249mm (17.2&quot; x 1.7&quot; x 9.8&quot;)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
## Intel® Xeon® D Compact Front Access
### 1U 2-Slot System

**MODEL**

<table>
<thead>
<tr>
<th>SYS-1019D-FHN13TP</th>
<th>SYS-1019D-4C-FHN13TP</th>
<th>SYS-1019D-14CN-FHN13TP</th>
<th>SYS-1019D-16C-FHN13TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® D-2146NT, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>Intel® D-2123JT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>Intel® D-2177NT, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
</tr>
</tbody>
</table>

**Key Applications**

- Multi-Access Edge Computing (MEC)
- Centralized/Cloud Radio Access Network (C-RAN)
- Universal Customer Premise Equipment (uCPE)
- Software Defined WAN (SD-WAN)
- Network Function Virtualization (NFV)
- Artificial Intelligence (AI)
- Network Security Appliance
- FireWall Applications
- Virtualization
- SD-WAN and vCPE/UCPE
- vCPE

**Outstanding Features**

- Dual PCI-E 3.0 x16 FHFL
- 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45
- 1x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key
- Dual PCI-E 3.0 x16 FHFL
- 1x 115SDW-BC-TP13F
- 2x External Hot-swap 2.5" Drive Bays, 2x Internal 2.5" Drive Bays

**Serverboard**

- SUPER® X11SDW-BC-TP13F
- 400W Redundant Platinum PSU
- Built-in Intel® QAT up to 40 Gbps Crypto/Compresion
- 8 LAN w/2x10G SPF + 2x10GbEbase-T and 4x1GbE LAN
- 4x 2.5" HDD
- 2x265GB DDR4-2133MHz Registered ECC RDIMM or 512GB LRDIMM LRDIMM

**Chipset**

- System on Chip (SoC)
- DDR4-2666 512 LRDIMM or 256 Registered ECC RDIMM in 4 DIMM slots
- DDR4-2133 up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM LRDIMM in 4 DIMM slots

**Expansion Slots**

- Dual PCI-E 3.0 x 16 full height full length expansion slot
- 4x1Gbe, 2x10Gbe, 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0
- 4x 1Gbe, 2x 10GbE-T, 2x 10Gbase-T, 1 dedicated IPMI LAN, 2x USB3.0

**Connectivity**

- SoC controller for 4 SATA3 (6 Gbps) ports
- SoC with 12 SATA for RAID 0,1,5,10

**Management**

- IPMI 2.0
- IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA

**Peripheral Bays**

- 2x External Hot-swap 2.5" Drive Bays, 2x Internal 2.5" Drive Bays
- N/A

**Power Supply**

- 1019D-FHN13TP / -4C: 350W Multi-output Platinum Level power supply;
- 1019D-14CN / -16C: 500W Multi-output Platinum Level power supply
- Redundant 400W 80Plus Platinum Level power supplies;

**Cooling System**

- 4 or 6 40x28mm PWM fans (up to 6)
- 4x 40x56mm cooling fan

**Form Factor**

- 437 x 43 x 381mm (17.2" x 1.7" x 15")
- 437 x 43 x 429mm (17.2" x 1.7" x 16.9")

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### Intel® Xeon® Processor D

**Compact Front Access 1U 2-Slot, Redundant AC PSUs, and Hot Swappable Fans**

#### SYS-1019D-4C-RAN13TP+
- **MODEL**
  - 4C: Intel® Xeon® Processor D-2123IT supported, CPU TDP support up to 60W TDP
- **Processor Support**
  - Intel® Xeon® Processor D-2123IT, 4 Cores, 8 Threads, 2.2 GHz, 60W
  - 2x PCI-E 3.0 x16 FHFL
  - 4x 10GbE SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45, 1x VGA Port
  - 1x M.2 M-Key 2280/22110, 1x M.2 B-Key 2242, 1x M.2 E-Key 2230
  - 2x 2.5" Internal Drive Bay
  - 800W AC Redundant PSU, 5x Hot-Swappable Fans
- **Chipset**
  - System on Chip (SoC)
- **System Memory (Max.)**
  - Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Expansion Slots**
  - 2x PCI-E 3.0 x16 FHFL
- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Connectivity**
  - 4 SFP+, 9 GbE (one for Ethernet management), 1 dedicated IPMI LAN, 1 COM via RJ45, 2x USB 3.0, 1x VGA
- **Management**
  - IPMI 2.0

**SYS-1019D-14CN-RAN13TP+**
- **MODEL**
  - 14CN: Intel® Xeon® Processor D-2177NT supported, CPU TDP support up to 105W TDP
- **Processor Support**
  - Intel® Xeon® Processor D-2177NT, 16 Cores, 32 Threads, 2.2 GHz, 100W
  - 2x PCI-E3.0 x16 FHFL
  - 4x 10GbE SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45, 1x VGA Port
  - 1x M.2 M-Key 2280/22110, 1x M.2 B-Key 2242, 1x M.2 E-Key 2230
  - 2x 2.5" Internal Drive Bay
  - 800W DC Redundant PSU, 5x Hot-Swappable Fans
- **Chipset**
  - System on Chip (SoC)
- **System Memory (Max.)**
  - Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Expansion Slots**
  - 2x PCI-E 3.0 x16 FHFL
- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Connectivity**
  - 4 SFP+, 9 GbE (one for Ethernet management), 1 dedicated IPMI LAN, 1 COM via RJ45, 2x USB 3.0, 1x VGA
- **Management**
  - IPMI 2.0

**SYS-1019D-16C-RAN13TP+**
- **MODEL**
  - 16C: Intel® Xeon® Processor D-2183IT supported, CPU TDP support up to 100W TDP
- **Processor Support**
  - Intel® Xeon® Processor D-2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W
  - 2x PCI-E3.0 x16 FHFL
  - 4x 10GbE SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45, 1x VGA Port
  - 1x M.2 M-Key 2280/22110, 1x M.2 B-Key 2242, 1x M.2 E-Key 2230
  - 2x 2.5" Internal Drive Bay
  - 800W DC Redundant PSU, 5x Hot-Swappable Fans
- **Chipset**
  - System on Chip (SoC)
- **System Memory (Max.)**
  - Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Expansion Slots**
  - 2x PCI-E 3.0 x16 FHFL
- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Connectivity**
  - 4 SFP+, 9 GbE (one for Ethernet management), 1 dedicated IPMI LAN, 1 COM via RJ45, 2x USB 3.0, 1x VGA
- **Management**
  - IPMI 2.0

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Outstanding Features

- Centralized/Cloud Radio Access Network (C-RAN)
- Universal Customer Premise Equipment (uCPE)
- Software Defined Wide Area Network (SD-WAN)
- Network Function Virtualization (NFV)
- Intel® Xeon® D-2146NT Processor, 8 Cores, 16 Threads, 2.3 GHz, 80W
- 4x PCI-E3.0 x8 slots for AIOM
- 2x 10GbE/Ethernet Management Port, 1x COM via RJ45/micro USB
- 2x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key
- 2x EDSFF

## Serverboard

- 12C: SUPER® X11SDS-12C
- 14C: SUPER® X11SDS-14C
- 16C: SUPER® X11SDS-16C

## Chipset

- System on Chip (SoC)

## System Memory (Max.)

- Up to 256GB Registered ECC RDIMM or 512GB LRDIMM, DDR4-2133MHz; up to 512GB LRDIMM, in 4 DIMM slots

## Expansion Slots

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019D-16C-FRN5TP</th>
<th>SYS-1019D-14C-FRN5TP</th>
<th>SYS-1019D-12C-FRN5TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>-16C: Intel® D-2183IT, 16C/32T, 2.2GHz, 100W</td>
<td>-14C: Intel® D-2173IT, 14C/28T, 1.7GHz, 70W</td>
<td>-12C: Intel® D-2163IT, 12C/24T, 2.1GHz, 75W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Centralized/Cloud Radio Access Network (C-RAN)</td>
<td>• Centralized/Cloud Radio Access Network (C-RAN)</td>
<td>• Centralized/Cloud Radio Access Network (C-RAN)</td>
</tr>
<tr>
<td></td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
</tr>
<tr>
<td></td>
<td>• Software Defined Wide Area Network (SD-WAN)</td>
<td>• Software Defined Wide Area Network (SD-WAN)</td>
<td>• Software Defined Wide Area Network (SD-WAN)</td>
</tr>
<tr>
<td></td>
<td>• Network Function Virtualization (NFV)</td>
<td>• Intel® Xeon® D-2146NT Processor, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>• Embedded Networking Applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Network Function Virtualization (NFV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>4x PCI-E3.0 x8 slots for AIOM</td>
<td>2x 10GbE/Ethernet Management Port, 1x COM via RJ45/micro USB</td>
<td>2x 10GbE/SFP+, Dual SFP+, Dual 10GbE-Base-T and Quad GbE</td>
</tr>
<tr>
<td></td>
<td><strong>AIOM sold separately</strong></td>
<td>2x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key</td>
<td><strong>Short depth (less than 10 depth)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Best Performance per Watt</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>7 year life cycle</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>IPMI 2.0 management with dedicated LAN</strong></td>
</tr>
</tbody>
</table>

## Connectivity

- 2x 10GbE (with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 2x USB 3.0
- 2x 10GbE (with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 2x USB 3.0
- 2x 10GbE/SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

## Power Supply

400W Redundant Power Supply, 80 PLUS Platinum

## Cooling System

5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans

## Form Factor

4.37 x 43 x 381 mm (17.2” x 1.7” x 15”)

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* Please check with your Supermicro sales representative and website for compatibility and configuration details.
## IoT/Embedded

![IoT/Embedded Logo](logo.png)

### Embedded/IoT Building Block Solutions - September 2022

**Intel® Atom® C3558 SoC, 4 Cores**

**Intel® Xeon® D Wall-mount System with 3 PCI-E slots**

### Outstanding Features

- **Virtualization Technology**
  - Intel® VT-x and VT-d for virtualization
  - Intel® TXT, improved AES-NI, QuickAssist Technology
  - Virtual-CPE White Box

- **Multi-Access Edge Computing (MEC)**
  - Universal Customer Premise Equipment (uCPE)
  - Network Function Virtualization (NFV)
  - Edge Computing, Vehicle to Everything Application

- **Edge Computing, Vehicle to Everything Application**
  - Virtualization Server
  - Virtual-CPE White Box
  - Entry-level Network Appliance

- **System on Chip (SoC)**
  - Intel® Atom® C3558, SoC 4 Cores, 16W, 2.2 GHz

### Key Applications

- **Avonton/Rangeley cores. We expect a 70% or so raw performance improvement per core**

### Serverboard

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E200-9A</th>
<th>SYS-E403-9D-4C-FN13TP</th>
<th>SYS-E403-9D-12C-FN13TP</th>
<th>SYS-E403-9D-14C-FN13TP</th>
<th>SYS-E403-9D-16C-FN13TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom™ C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-4C: Intel® D-2123IT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>-12C: Intel® D-2163IT, 12 Cores, 24 Threads, 2.1 GHz, 75W</td>
<td>-14C: Intel® D-2173IT, 14 Cores, 28 Threads, 1.7 GHz, 70W</td>
<td>-16C: Intel® D-2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Virtualization Server</td>
<td>• Virtual-CPE White Box</td>
<td>• Entry-level Network Appliance</td>
<td>• Virtualization Server</td>
<td>• Virtual-CPE White Box</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Dual PCI-E 3.0 x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
<td>• Network Function Virtualization (NFV)</td>
<td>• Edge Computing, Vehicle to Everything Application (C-V2X / V2X)</td>
<td>• Dual PCI-E 3.0 x16 or Dual x8, One x16 PCI-E 3.0 (FHFL, 300mm)</td>
</tr>
</tbody>
</table>

### Chipset

- **System on Chip (SoC)**

### System Memory (Max.)

- **Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400/2133 MHz in 4 DIMM slots**

### Onboard Storage Controller

- **SoC controller for 4x SATA 3.0**

### Connectivity

- **4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 2.0, 1 USB 3.0 type A**

### VGA/Audio

- **VGA via BMC**

### Management

- **Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog**

### Drive Bays

- **1x 2.5" SSD fixed drive bay**

### Peripheral Bays

- **N/A**

### Power Supply

- **Lockable 12V DC 60W power adapter**

### Cooling System

- **2x 40x28mm 4-PIN PWM FAN (FAN-0065L4, 13K RPM)**

### Form Factor

- **1U Compact Box; Enclosure: 195 x 43 x 226mm (7.68” x 1.7” x 8.9”)**

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
# Intel® Xeon® D System

## with 3 PCIe slots

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E403-9D-4C-FRN13+</th>
<th>SYS-E403-9D-14CN-FRN13+</th>
<th>SYS-E403-9D-16C-FRN13+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>-4C: Intel® Xeon® D-2123IT Processor, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>-16C: Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td></td>
</tr>
<tr>
<td>Key Applications</td>
<td>Multi-Access Edge Computing (MEC)</td>
<td>Multi-Access Edge Computing (MEC)</td>
<td></td>
</tr>
<tr>
<td>Key Applications</td>
<td>Universal Customer Premise Equipment (uCPE)</td>
<td>Universal Customer Premise Equipment (uCPE)</td>
<td></td>
</tr>
<tr>
<td>Key Applications</td>
<td>Network Function Virtualization (NFV)</td>
<td>Network Function Virtualization (NFV)</td>
<td></td>
</tr>
<tr>
<td>Key Applications</td>
<td>Edge Computing, Vehicle to Everything Application (C-V2X / V2X)</td>
<td>Edge Computing, Vehicle to Everything Application (C-V2X / V2X)</td>
<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Dual PCIe3.0 x16 or Dual x8, One x16 PCIe3.0 (FH3/4L)</td>
<td>Dual PCIe3.0 x16 or Dual x8, One x16 PCIe3.0 (FH3/4L)</td>
<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Operating Temperature 0°C – 50°C (32°F – 122°F)</td>
<td>Operating Temperature 0°C – 50°C (32°F – 122°F)</td>
<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td>4C: SUPER® X11SDW-4C-TP13F+</td>
<td>14CN: SUPER® X11SDW-14CN-TP13F+</td>
<td></td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td></td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots</td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
<td>Dual x16 or Dual x8, One x16 PCI-E3.0 full height 3/4 length expansion slot</td>
<td></td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td>2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0</td>
<td></td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td></td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>3x 80x80mm PWM redundant fans</td>
<td>3x 80x80mm PWM redundant fans</td>
<td></td>
</tr>
<tr>
<td>Form Factor</td>
<td>267 x 117 x 406mm (10.5” x 4.62” x 16”)</td>
<td>267 x 117 x 406mm (10.5” x 4.62” x 16”)</td>
<td></td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## IoT/Embedded

### AMD EPYC™ 3000 Series 8C IoT Compact Box Edge Platform
- **Processor Support**: AMD EPYC™ 3251 SoC Processor, 8 Core/16 Thread, 2.5GHz / 50w
- **Key Applications**: • Embedded IoT Computing • SD-WAN and vCPE/vCEP • Hyper-Converged Appliance • Entry-level Network Appliance
- **Outstanding Features**: • AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread • 1 M.2 M-key for NVMe, 2242/80 • 1 PCIe3.0 x16 expansion for AOC • IPMI 2.0 management with dedicated LAN • 7 year life cycle • Best Performance per Watt

### Intel® Xeon® D-2146NT SoC, 8 Core, 16 Thread, Compact
- **Processor Support**: Intel® Xeon® D-2146NT, 8 Core, 80W
- **Chipset**: System On Chip
- **System Memory (Max.)**: DDR4-2133MHz, in 4 DIMM slots
- **Management**: IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
- **Drive Bays**: 2x2.5” fixed drive bay bracket, supporting 15mm 2.5” Enterprise drive
- **Peripheral Bays**: N/A
- **Power Supply**: Lockable 12V DC 150W power adapter
- **Cooling System**: 3x 40x28mm 4-PIN PWM Fan (FAN-0100L4, 8.5K RPM)

### Intel® Xeon® D-2123IT SoC, 4 Cores
- **Processor Support**: Intel® Xeon® D-2123IT, 4-Core, 60W
- **Chipset**: System On Chip
- **System Memory (Max.)**: DDR4-2133MHz, in 4 DIMM slots
- **Management**: IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
- **Drive Bays**: 2x2.5” fixed drive bay bracket, supporting 15mm 2.5” Enterprise drive
- **Peripheral Bays**: N/A
- **Power Supply**: Lockable 12V DC 60W power adapter
- **Cooling System**: 3x 40x28mm 4-PIN PWM Fan (FAN-0100L4, 8.5K RPM)

---

### TABLE: Embedded/IoT Building Block Solutions - September 2022

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AS -E301-9D-8CN4</th>
<th>SYS-E301-9D-8CN8TP</th>
<th>SYS-E302-9A</th>
<th>SYS-E302-9D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>AMD EPYC™ 3251 SoC Processor, 8 Core/16 Thread, 2.5GHz / 50w</td>
<td>Intel® Xeon® D-2146NT, 8 Core, 80W</td>
<td>Intel® Atom® Processor C3558.&lt;br&gt;Single Socket FCBGA-1310 supported, CPU TDP support up to 16W TDP</td>
<td>Intel® Xeon® D-2123IT, 4-Core, 60W</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>DDR4-2666 512GB or 256GB Registered ECC RDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots</td>
<td>DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM or 256GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM or 256GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe Express 3.0 x16 AOC slot (LP), 1 M.2 (M Key for NVMe, 2242/80)</td>
<td>1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots</td>
<td>1x M.2 M Key 2242/2280 (PCI-E 3.0 x2)</td>
<td>1 PCI-E 3.0 x8</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 2x SATA 3.0</td>
<td>SoC controller for 2x SATA 3.0</td>
<td>SoC controller for 2 SATA3 ports; RAID 0,1</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>4x 1GbE LAN, 1x Dedicated IPMI LAN, 2 USB 3.0</td>
<td>2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2x USB 3.0</td>
<td>4x 1GbE, 1x dedicated IPMI LAN, 2x USB 2.0</td>
<td>2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>Aspeed AST2400 BMC</td>
<td>Aspeed AST2500 BMC</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” fixed drive bay bracket, supporting 15mm 2.5” Enterprise drive</td>
<td>Support up to 4x 7mm SSD</td>
<td>2x 2.5” 7mm fixed drive bay</td>
<td>2x 2.5” fixed drive bay with bracket</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 150W power adapter</td>
<td>DC power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>150W 12V Lockable DC Power Adapter; Optional 180W 12V Lockable DC Power Adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>3x 40x28mm 4-PIN PWM Fan (FAN-0100L4, 8.5K RPM)</td>
<td>Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM)</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>254 x 66 x 226mm (10” x 2.6” x 8.9”)</td>
<td>254 x 66 x 226mm (10” x 2.6” x 8.9”)</td>
<td>295 x 76 x 206mm (11.6” x 3” x 8.1”)</td>
<td>295 x 76 x 206mm (11.6” x 3” x 8.1”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Embedded/IoT Building Block Solutions - September 2022

### SYS-E300-9A Applications

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E300-9A-4CN10P</th>
<th>SYS-E300-9A-8CN10P</th>
<th>SYS-E300-9A-8CN8</th>
<th>SYS-E300-9A-4C</th>
<th>SYS-E300-9A-8C</th>
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</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>-4CN10P: Intel® Atom™ Processor Denverton C3558/C3758, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-8CN10P: Intel® Atom™ Processor Denverton C3558, SoC 8 Cores, 25W, 2.2 GHz</td>
<td>-8CN8: Intel® Atom™ Processor Denverton C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-4C: Intel® Atom™ Processor Denverton C3558, SoC 4 Cores, 25W, 2.2 GHz</td>
<td>-8C: Intel® Atom™ Processor Denverton C3558, SoC 8 Cores, 25W, 2.2 GHz</td>
</tr>
<tr>
<td>Key Applications</td>
<td>- Virtual-CPE White Box Solution</td>
<td>- Virtual-CPE White Box Solution</td>
<td>- Virtual-CPE White Box Solution</td>
<td>- Virtual-CPE White Box Solution</td>
<td>- Virtual-CPE White Box Solution</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 3x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>- 1x PCI Express 3.0 x2 AOC slot (LP) when SSD isn’t populated, 1 M.2 B Key 3042/2280 (PCI-E 3.0 x2)</td>
<td>- 1x PCI Express 3.0 x4 AOC slot (LP) when SSD isn’t populated, 1 M.2 B Key 3042/2280 (PCI-E 3.0 x2)</td>
<td>- 1x PCI Express 3.0 x4 AOC slot (LP) when only 1 SSD populated, 1 M.2 B Key 3042/2280 (PCI-E 3.0 x2)</td>
<td>- 1x PCI Express 3.0 x4 AOC slot (LP) when only 1 SSD populated, 1 M.2 B Key 3042/2280 (PCI-E 3.0 x2)</td>
<td>- 1x PCI Express 3.0 x4 AOC slot (LP) when only 1 SSD populated, 1 M.2 B Key 3042/2280 (PCI-E 3.0 x2)</td>
</tr>
<tr>
<td>Connectivity</td>
<td>8x 1GbE Rj45 and 2x 1G SFP ports onboard</td>
<td>8x 1GbE Rj45 and 2x 1G SFP ports onboard</td>
<td>8x 1GbE Rj45 and 2x 1G SFP ports onboard</td>
<td>8x 1GbE Rj45 and 2x 1G SFP ports onboard</td>
<td>8x 1GbE Rj45 and 2x 1G SFP ports onboard</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 2.5&quot; fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5&quot; fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5&quot; fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5&quot; fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5&quot; fixed drive bay when AOC area is not occupied.</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan/FAN-0065L4, 13K RPM, Optional 1x Fan by request</td>
</tr>
<tr>
<td>Form Factor</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9&quot;)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### Embedded/IoT Building Block Solutions - September 2022

#### Key Features
- **8th Generation Intel® Core™ 17/15/13 Processor**
- **Intel® Xeon® D-2146NT**
- **SoC, 8 Core, 16 Thread**
- **Intel® Xeon® D-2123IT**
- **4 Cores, 8 Threads**
- **Intel® Atom™ C3958**
- **SoC, 16 Cores**

**Outstanding Features**
- **Coffee Lake 8th Gen Core i3/5/7**
- **Embedded long-life**
- **1U Box Edge Devices**
- **TPM onboard**

**Expansion Slots**
- 1x PCI Express 3.0 x16 AOC slot (LP)
- 1 Mini-PCI-E with mSATA Support, 1 PCI-E 3.0x8 slots

**Onboard Storage Controller**
- Q370 controller for 2 SATA3 ports: RAID 0,1
- SoC controller for 4x SATA3 (6 Gbps) ports
- 1x dedicated IPMI LAN, 2x USB 3.0

**Connectivity**
- 2x 10G SFP+, 2x 10GbE LAN, 4x 1GE LAN, 1x dedicated IPMI LAN, 2x USB 3.0
- 2x 10GE SFP+, 2x 10GbE LAN, 4x 1GE LAN, 1 dedicated IPMI LAN, 2 USB 3.0

**VGA/Audio**
- 1 DVI-D, 1 HDMI, 1 DisplayPort (3 Independent displays; 1 eDP), 1 DisplayPort (3 Independent displays; 1 eDP)
- VGA via BMC

**Management**
- AMT, NMI, SuperDoctor®, vPro, Watchdog
- IPMI 2.0, KVM with dedicated LAN, Watchdog
- IPMI 2.0, KVM with dedicated LAN, Watchdog

**Drive Bays**
- 2x 2.5" fixed drive bay
- 1x 2.5" fixed drive bay with bracket (No. 2.5" fixed drive bay when AOC area is occupied.)

**Peripheral Bays**
- 100W DC 150W power adapter
- DC power adapter
- DC power adapter

**Cooling System**
- 4x 100W high performance PWM fan; optional for 1x fan to add-on card area cooling
- Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM)
- Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM)

**Form Factor**
- 254 x 43 x 226mm (10" x 1.7" x 8.9")

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**Please check with your Supermicro sales representative and website for compatibility and configuration details**
# Embedded/IoT Building Block Solutions

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E300-9D</th>
<th>SYS-E300-8D</th>
<th>SYS-E200-8D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Skylake Xeon® D-2123IT SoC, 2.2GHz, 4 Core, 8 Thread, TDP 60W</td>
<td>Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2 GHz</td>
<td>Intel® Xeon® Processor D-1528, SoC 6 Core, 35W, 1.9 GHz</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Network Security Appliance</td>
<td>• Embedded Networking Applications</td>
<td>• Embedded Networking Applications</td>
</tr>
<tr>
<td></td>
<td>• SDN-WAN, vCPE controller box</td>
<td>• Network Security Appliance</td>
<td>• Network Security Appliance</td>
</tr>
<tr>
<td></td>
<td>• NFV Edge Computing Server</td>
<td>• FireWall Applications</td>
<td>• FireWall Applications</td>
</tr>
<tr>
<td></td>
<td>• Virtualization Server</td>
<td>• Virtualization Server</td>
<td>• Virtualization Server</td>
</tr>
<tr>
<td></td>
<td>• IoT Gateway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Supports up to 4C high Density SKL-D SoC processor for edge network computing</td>
<td>• Dual SFP+ and 6 GbE</td>
<td>• Smallest Xeon® Server BOX</td>
</tr>
<tr>
<td></td>
<td>• High Memory Bandwidth-Supports 4 DDR4 channel DIMMs(ECC RDIMM or ECC RDIMM) with up to 2400 MHz memory speed, Max memory capacity up to 512GB on LRDIMM</td>
<td>• Short depth (Less than 10 depth)</td>
<td>• Low Power Xeon® D SoC 6 Core</td>
</tr>
<tr>
<td></td>
<td>• 1x Low Profile PCIe-E 3.0 x 8 slot, 1 on board Oculink port(or 1x PCI-Ex4 NVMe for NVMe SSD)</td>
<td>• Low Power Xeon® D SoC 4 Core</td>
<td>• Best Performance per Watt</td>
</tr>
<tr>
<td></td>
<td>• 2 x 10GBase-T ethernet ports RMDA support</td>
<td>• 7 year life cycle</td>
<td>• 7 year life cycle</td>
</tr>
<tr>
<td></td>
<td>• 2 x USB 3.0, 1 x SATA 3.0 ports(SATA/SAS HDD/SSD)</td>
<td>• IPMI 2.0 management with dedicated LAN</td>
<td>• IPMI 2.0 management with dedicated LAN</td>
</tr>
<tr>
<td></td>
<td>• 1 x TPM 2.0 header</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X11SDV-4C-TLN2F</td>
<td>SUPER® X10SDV-TP8F</td>
<td>SUPER® X10SDV-6C-TLN4F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System On Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>4 x DDR4 DIMM 512 GB up to 2400MHz LRDIMM or 256GB RDIMM, ECC/non-ECC</td>
<td>Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets</td>
<td>128GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC, DDR4-2133MHz in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8(L/P)</td>
<td>1 PCI-E 3.0 x8 AOC slot (LP), 1 M.2/M Key for SSD 2242/80/110, PCI-E/SATA3.0, 1 Mini-PCI-E/w mSATA</td>
<td>1 M.2(M Key for SSD 2242/80, PCI-E/SATA3.0)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; support RAID 0,1,5,10, 4 SATA ports via OcuLink (or PCIE3.0 x4 for NVMe)</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 6x SATA3.0</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 1GBase-T-LAN, 1 dedicated IPMI LAN, 2 USB 3.0</td>
<td>6x GbE and 2 SFP+, 1 dedicated management port, 2x USB 3.0</td>
<td>2x GbE and 2x 10G LAN ports, 1 dedicated management port, 2x USB 3.0</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI 2.0</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 2.5” internal drive bay</td>
<td>1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.)</td>
<td>1x 2.5” fixed drive bay with bracket. (Design for 9.5mm thickness HDD with Low Profile Memory)</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>MCP-250-10128-0N (150W)</td>
<td>DC power adapter</td>
<td>DC power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), none</td>
<td>Passive CPU heat sink and 2x 40mm chassis fans</td>
<td>Passive CPU heat sink and 2x 40mm chassis fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9”)</td>
<td>1U Compact Box; Enclosure: 254 x 43 x 226mm (10” x 1.7” x 8.9”)</td>
<td>1U compact BOX; Enclosure: 193 x 43 x 226mm (7.6” x 1.7” x 8.9”)</td>
</tr>
<tr>
<td></td>
<td>Package: 381 x 276 x 142mm (15” x 10.87” x 5.59”)</td>
<td>Gross Weight: 6.1lbs (2.77kg) Net Weight: 3.4lbs (1.56kg)</td>
<td>Package: 381 x 276 x 127mm (15” x 10.87” x 5.59”)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### X13 IoT/Embedded

#### New!

**Alder Lake Compact Fanless Server**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-13AD-C</th>
<th>SYS-E100-13AD-L</th>
<th>SYS-E100-13AD-E</th>
<th>SYS-E100-13AD-H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>11th Generation Intel® Celeron® Processor J3035 Processor; up to TDP 15W</td>
<td>11th Generation Intel® Core™ i3-1215U Processor; up to TDP 15W</td>
<td>11th Generation Intel® Core™ i5-1245U Processor; up to TDP 15W</td>
<td>11th Generation Intel® Core™ i7-1265U Processor; up to TDP 15W</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage |
| **Outstanding Features** | 195 x 44mm x 159mm  
Cooling System: Fanless  
Power Supply: Lockable 12V DC 60W or 84W power adapter  
Form Factor: 46mm x 44mm x 159mm (7.68" x 1.73" x 6.25") | 195 x 44mm x 159mm  
Cooling System: Fanless  
Power Supply: Lockable 12V DC 60W or 84W power adapter  
Form Factor: 46mm x 44mm x 159mm (7.68" x 1.73" x 6.25") | 195 x 44mm x 159mm  
Cooling System: Fanless  
Power Supply: Lockable 12V DC 60W or 84W power adapter  
Form Factor: 46mm x 44mm x 159mm (7.68" x 1.73" x 6.25") | 195 x 44mm x 159mm  
Cooling System: Fanless  
Power Supply: Lockable 12V DC 60W or 84W power adapter  
Form Factor: 46mm x 44mm x 159mm (7.68" x 1.73" x 6.25") |

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### IoT/Embedded

#### Fanless IoT Gateway/Server

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9S</th>
<th>SYS-E100-9S-E</th>
<th>SYS-E100-9S-L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>7th Generation Intel® Core™ i7-7600U Processor; up to TDP 15W</td>
<td>7th Generation Intel® Core™ i5-7300U Processor; up to TDP 15W</td>
<td>7th Generation Intel® Core™ i3-7100U Processor; up to TDP 15W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>IoT Edge Computing</td>
<td>IoT Edge Computing</td>
<td>IoT Edge Computing</td>
</tr>
<tr>
<td></td>
<td>Kiosk, Interactive information system</td>
<td>Kiosk, Interactive information system</td>
<td>Kiosk, Interactive information system</td>
</tr>
<tr>
<td></td>
<td>Environmental Monitor</td>
<td>Environmental Monitor</td>
<td>Environmental Monitor</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>Core i Fanless Compact Ruggedized Box PC</td>
<td>1 HDMI and 1 Display Port, 1 USB3.1, 2 USB 3.0, 4 USB 2.0, 4 COM (RS-232/422/485), 1 8-bit configurable GPIO via DB9, 2 Gigabit Ethernet Ports, TPM2.0 onboard</td>
<td>1 HDMI and 1 Display Port, 1 USB3.1, 2 USB 3.0, 4 USB 2.0, 4 COM (RS-232/422/485), 1 8-bit configurable GPIO via DB9, 2 Gigabit Ethernet Ports, TPM2.0 onboard</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SSN-H-WOHS</td>
<td>SUPER® X11SSN-E-WOHS</td>
<td>SUPER® X11SSN-L-WOHS</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 Full size Mini-PCI-E, 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCI-E, 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCI-E, 1 M.2 2280 B-Key</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>Dual LAN with Intel®PHY I219LM, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (RS-232/422/485), 1 8-bit GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel®PHY I219LM, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (RS-232/422/485), 1 8-bit GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel®PHY I219LM, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (RS-232/422/485), 1 8-bit GPIO via DB9, TPM2.0 onboard</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 DisplayPort, 1 HDMI</td>
<td>1 DisplayPort, 1 HDMI</td>
<td>1 DisplayPort, 1 HDMI</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## IoT/Embedded

### IPS1 Fanless IoT Gateway/Server

- **Model**: SYS-E50-9AP, SYS-E50-9AP-L, SYS-E50-9AP-N5
- **Processor Support**
  - SYS-E50-9AP: Intel® Atom™ Processor x5-E3940; up to TDP 9.5W
  - SYS-E50-9AP-L: Intel® Atom™ Processor x5-E3940; up to TDP 9.5W
  - SYS-E50-9AP-N5: Intel® Atom™ Processor x5-E3940; up to TDP 9.5W

### Key Applications

- IoT Gateway
- Commercial Appliance
- Support Cloud-based Management Software
- IP51 with plastic chassis design for water/dust proof

### Outstanding Features

- PALM-size for space-limited environment
- Built-in Antenna

### Serverboard

- SYS-E50-9AP: SUPER® A2SAP-H
- SYS-E50-9AP-L: SUPER® A2SAP-H
- SYS-E50-9AP-N5: SUPER® A2SAP-H

### System on Chip

- System Memory (Max.):
  - SYS-E50-9AP: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket
  - SYS-E50-9AP-L: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket
  - SYS-E50-9AP-N5: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket

### Expansion Slots

- 1 Full-size Mini-PCI-E; 1 Half-size Mini-PCI-E; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230
- 1 Half-size Mini-PCI-E; 1 M.2 B-Key 2242
- 1 Half-size Mini-PCI-E; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230

### Onboard Storage Controller

- 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD
- 1 M.2 B-Key 2242 for SATA SSD
- 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD

### Connectivity

- Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 2 COM (RS-232/422/485), TPM2.0 onboard
- Dual LAN with Intel® I210-IT, 2 USB3.0
- 5 LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 1 COM, TPM2.0 onboard

### VGA/Audio

- 2 HDMI
- 1 HDMI
- 2 HDMI

### Management

- SuperDoctor® 5, Watchdog
- SuperDoctor® 5, Watchdog
- SuperDoctor® 5, Watchdog

### Drive Bays

- 1 SATA 3.0 for 7mm 2.5” SATA SSD
- N/A
- 1 SATA 3.0 for 7mm 2.5” SATA SSD

### Peripheral Bays

- N/A
- N/A
- N/A

### Power Supply

- Lockable 12V DC 40W power adapter
- Lockable 12V DC 40W power adapter
- Lockable 12V DC 40W power adapter

### Cooling System

- Fanless
- Fanless
- Fanless

### Form Factor

- 148 x 44 x 118mm (5.82” x 1.72” x 4.64”)
- 148 x 44 x 118mm (5.82” x 1.72” x 4.64”)
- 148 x 44 x 118mm (5.82” x 1.72” x 4.64”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
**IoT/Embedded**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom® X5-E3930; up to TDP 6.5W</td>
<td>Intel® Atom® X5-E3940, 4 Cores, TDP 9.5W</td>
<td>Intel® Celeron® J3455 , 4 Cores, TDP 10W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• IoT Gateway</td>
<td>• Embedded Applications</td>
<td>• IoT Gateway</td>
<td>• IoT Gateway</td>
</tr>
<tr>
<td></td>
<td>• Commercial Appliance</td>
<td></td>
<td>• Network Security Appliance</td>
<td>• Network Security Appliance</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Built-in Antenna and Dual band Wireless/Bluetooth combo module</td>
<td>• Building Block Solution for Embedded Applications</td>
<td>• Compact size with 1x 2.5&quot; 7mm Storage Drive</td>
<td>• Compact size with 1x 2.5&quot; 7mm Storage Drive</td>
</tr>
<tr>
<td></td>
<td>• IP51 with plastic chassis design for water/dust proof</td>
<td>• Easy integration</td>
<td>• 4x Gigabit LAN Ports</td>
<td>• 4x Gigabit LAN Ports</td>
</tr>
<tr>
<td></td>
<td>• Cable-less design for easy maintenance</td>
<td>• Compact size</td>
<td>• Support WIFI/BT, 3 LTE, and GPS by 4 M.2 slots</td>
<td>• Support WIFI/BT, 3 LTE, and GPS by 4 M.2 slots</td>
</tr>
<tr>
<td></td>
<td>• Fanless design with palm-size dimension</td>
<td>• Ultra low power 6.5W</td>
<td>• SIM slot at rear I/O side for easily accessible by user</td>
<td>• SIM slot at rear I/O side for easily accessible by user</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A2SAN-LN4-C</td>
<td>SUPER® A2SAN-L</td>
<td>SUPER® A2SAN-LN4-E</td>
<td>SUPER® A2SAN-LN4-C</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 Full size Mini-PCI-E; 1 Half size Mini-PCI-E; 1 M.2 B-Key 2242</td>
<td>1 Full Size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>3 2242/3042 M.2 B-key w/ 3 x Nano-SIM slots for WWAN/LTE/GNSS card (1 with Sata3 support)</td>
<td>3 2242/3042 M.2 B-key w/ 3 x Nano-SIM slots for WWAN/LTE/GNSS card (1 with Sata3 support)</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 M.2 B-Key 2280 for SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 M.2 B-Key 2242 for M.2 SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 M.2 B-Key 2242 for M.2 SATA SSD, 1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 2 COM (RS-232/422/485), TPM 2.0 onboard, Dual Band Wireless and Bluetooth 4.2</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, TPM2.0 onboard</td>
<td>4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9</td>
<td>4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>2 HDMI</td>
<td>1 VGA 1 HDMI</td>
<td>1 HDMI</td>
<td>1 HDMI</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5; Watchdog</td>
<td>SuperDoctor® 5; Watchdog</td>
<td>SuperDoctor® 5; Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
<td>1 SATA 3.0 for 7mm 2.5&quot; SATA SSD</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>60W Lockable Power Adapter</td>
<td>60W Lockable Power Adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Passive CPU heat sink and 1x 40mm chassis fans</td>
<td>Passive CPU heat sink and 1x 40mm chassis fans</td>
<td>Passive CPU heat sink and 1x 40mm chassis fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>148 x 44 x 118mm (5.82&quot; x 1.72&quot; x 4.64&quot;)</td>
<td>1U Box; Enclosure: 190 x 44 x 120mm (7.48&quot; x 1.72&quot; x 4.72&quot;) Package: 241 x 140 x 203mm (9.5&quot; x 5.5&quot; x 8&quot;)</td>
<td>1U Box; Enclosure: 190 x 44 x 120mm (7.48&quot; x 1.72&quot; x 4.72&quot;) Package: 241 x 140 x 203mm (9.5&quot; x 5.5&quot; x 8&quot;)</td>
<td>1U Box; Enclosure: 190 x 44 x 120mm (7.48&quot; x 1.72&quot; x 4.72&quot;) Package: 241 x 140 x 203mm (9.5&quot; x 5.5&quot; x 8&quot;)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details

**Only available for NA and EU region. For other regions, please contact your sale representatives

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**Embedded/IoT Building Block Solutions - September 2022**
## Extended Temperature
### Fanless IoT Gateway/Server
### Industrial Ruggedized Fanless PC

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9AP</th>
<th>SYS-E100-9APP</th>
<th>SYS-E100-9AP-IA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>Intel® Pentium™ N4200; up to TDP 6W</td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• IoT Gateway for Smart Factory, Smart Building, Smart Home • Kiosk, Interactive information system • Environmental Monitor • Industrial Application</td>
<td>• IoT Gateway for Smart Factory, Smart Building, Smart Home • Kiosk, Interactive information system • Environmental Monitor</td>
<td>• IoT Gateway for Smart Factory, Smart Building • Machine Automation • Industrial Application</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• Low power Apollo Lake Atom™ E3940, 4C • Fanless Compact Ruggedized Box PC • Supports wide-temp: 0–60°C • TPM2.0 onboard • Operational vibration: 5G, IEC 60068-2-64 • Operational Shock: 30G, IEC 60068-2-27</td>
<td>• Supports temp: 0–60°C • TPM2.0 onboard • Operational vibration: 5G, IEC 60068-2-64 • Operational Shock: 30G, IEC 60068-2-27</td>
<td>• Low power Apollo Lake Atom™ E3940, 4C • Din-rail Fanless PC Box • Din-rail Fanless Ruggedized Box PC • 1 Flexible I/O Slot (via MiniPCI-E) • 9-36VDC wide range power input • Supports wide-temp: 0-60°C • Operational vibration: 5G, IEC 60068-2-64 • Operational Shock: 30G, IEC 60068-2-27</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A2SAN-E-WOHS</td>
<td>SUPER® X11SAN-WOHS</td>
<td>SUPER® A2SAN-E-WOHS</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCI-E; 1 M.2 2280 B-Key</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD, 1 SATA3 2.5&quot; SSD</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel® I210-IT, 1 USB3.1, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA 1 HDMI</td>
<td>1 VGA 1 HDMI</td>
<td>1 VGA 1 HDMI</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>1 SATA 3.0 for 2.5&quot; SATA SSD</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>12V DC 60W power adapter, Terminal Block</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>195 x 44 x 151mm (7.68” x 1.73” x 5.94&quot;)</td>
<td>195 x 44 x 151mm (7.68” x 1.73” x 5.94&quot;)</td>
<td>194 x 80 x 126mm (7.64” x 3.15” x 4.96&quot;)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
### Outstanding Features

**System**
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots
- 2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 18-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)
- Intel® UHD Graphics 620, ALC 8885 HD Audio

**Power Supply**
- Lockable 12V DC 60W power adapter

**Cooling System**
- Fanless

**Form Factor**
- 195 x 44 x 159mm (7.68” x 1.73” x 6.25”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*

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### Table: Model Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9W-H</th>
<th>SYS-E100-9W-E</th>
<th>SYS-E100-9W-L</th>
<th>SYS-E100-9W-C</th>
</tr>
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<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>8th Generation Intel® Core™ i7-8665UE Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8450U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8100U Processor; up to TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor; up to TDP 15W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
<td>Industrial Automation, Retail, Smart Medical Expert Systems</td>
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<td>System on Chip chipset</td>
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<td><strong>System Memory (Max.)</strong></td>
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<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 18-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 18-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 18-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 18-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog, AMT, vPro</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
</tbody>
</table>

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**Notes:**
- Model numbers include:
  - Model SYS-E100-9W-H
  - Model SYS-E100-9W-E
  - Model SYS-E100-9W-L
  - Model SYS-E100-9W-C
<table>
<thead>
<tr>
<th><strong>MODEL</strong></th>
<th><strong>SYS-E100-9W-IA-H</strong></th>
<th><strong>SYS-E100-9W-IA-E</strong></th>
<th><strong>SYS-E100-9W-IA-L</strong></th>
<th><strong>SYS-E100-9W-IA-C</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8665U Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i5-8265U Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to 15W TDP</td>
<td>8th Generation Intel® Celeron® 4305U Processor; up to 15W TDP</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Industrial Automation &amp; Control • Machine Automation</td>
<td>• Industrial Automation &amp; Control • Machine Automation</td>
<td>• Industrial Automation &amp; Control • Machine Automation</td>
<td>• Industrial Automation &amp; Control • Machine Automation</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• DIN-rail Fanless Box PC • 1 HDMI and 1 Display Port • 4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board</td>
<td>• DIN-rail Fanless Box PC • 1 HDMI and 1 Display Port • 4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board</td>
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</tr>
<tr>
<td>Serverboard</td>
<td>SUPER X11SWN-H-WOHS</td>
<td>SUPER X11SWN-E-WOHS</td>
<td>SUPER X11SWN-L-WOHS</td>
<td>SUPER X11SWN-C-WOHS</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
<td>System on Chip chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1)</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
<td>M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
<td>2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
<td>1 SATA SSD</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
<td>12V DC 60W power adapter with Terminal Block</td>
</tr>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>194 x 115 x 126mm (7.64” x 4.52” x 4.96”)</td>
<td>194 x 115 x 126mm (7.64” x 4.52” x 4.96”)</td>
<td>194 x 115 x 126mm (7.64” x 4.52” x 4.96”)</td>
<td>194 x 115 x 126mm (7.64” x 4.52” x 4.96”)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
---|---|---|---|---
### Processor Support
- 8th Generation Intel® Core™ i7-8665UE Processor, TDP 15W
- 8th Generation Intel® Core™ i5-8365UE Processor, TDP 15W
- 8th Generation Intel® Core™ i3-8156UE Processor, TDP 15W
- Intel® Celeron® Processor 4305U, TDP 15W
- Industrial Automation, Retail, Smart Medical Expert Systems
- Industrial Automation, Retail, Smart Medical Expert Systems
- Industrial Automation, Retail, Smart Medical Expert Systems
- Industrial Automation, Retail, Smart Medical Expert Systems
- Kiosk, Interactive information system
- Kiosk, Interactive information system
- Kiosk, Interactive information system
- Kiosk, Interactive information system
- Digital Signage
- Digital Signage
- Digital Signage
- Digital Signage
- Retail, Smart Medical Expert Systems
- Retail, Smart Medical Expert Systems
- Retail, Smart Medical Expert Systems
- Retail, Smart Medical Expert Systems
- Kiosk, Interactive information system
- Kiosk, Interactive information system
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- Digital Signage
- Digital Signage

### Key Applications
- SuperDoctor® 5, Watchdog, AMT, vPro
- SuperDoctor® 5, Watchdog, AMT, vPro
- SuperDoctor® 5, Watchdog, AMT, vPro
- SuperDoctor® 5, Watchdog, AMT, vPro
- Embedded/IoT Building Block Solutions - September 2022
- Embedded/IoT Building Block Solutions - September 2022
- Embedded/IoT Building Block Solutions - September 2022
- Embedded/IoT Building Block Solutions - September 2022
- Intel® UHD Graphics 620
- Intel® UHD Graphics 620
- Intel® UHD Graphics 620
- Intel® UHD Graphics 620
- Intel® UHD Graphics 620
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610
- Intel® UHD Graphics 610

### Outstanding Features
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)
- 4 USB 3.2 Gen2
- 4 USB 3.2 Gen2
- 4 USB 3.2 Gen2
- 4 USB 3.2 Gen2
- 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
- 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
- 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
- 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
- 12-24VDC wide range power input
- 0°C to 50°C Operating Temperature
- TPM2.0 on board
- 12-24VDC wide range power input
- 0°C to 50°C Operating Temperature
- TPM2.0 on board
- 12-24VDC wide range power input
- 0°C to 50°C Operating Temperature
- TPM2.0 on board
- 12-24VDC wide range power input
- 0°C to 50°C Operating Temperature
- TPM2.0 on board

### Serverboard
- SUPER® X11SWN-H
- SUPER® X11SWN-E
- SUPER® X11SWN-L
- SUPER® X11SWN-C

### Chipset
- System on Chip chipset
- System on Chip chipset
- System on Chip chipset
- System on Chip chipset

### System Memory (Max.)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots

### Expansion Slots
- M.2 2242/2260/2280 M-Key, 1 M.2 M-Key, 1 M.2 E-Key
- M.2 2242/2260/2280 M-Key, 1 M.2 M-Key, 1 M.2 E-Key
- M.2 2242/2260/2280 M-Key, 1 M.2 M-Key, 1 M.2 E-Key
- M.2 2242/2260/2280 M-Key, 1 M.2 M-Key, 1 M.2 E-Key
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2)
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2)
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2)
- M.2 2230 E-Key (CNVi/PCI-E 3.0 x1/USB2)
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen 3 x 4), NVMe support
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen 3 x 4), NVMe support
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen 3 x 4), NVMe support
- M.2 2242/2280 M-Key (PCI-E 3.0 x4, SATA Gen 3 x 4), NVMe support

### Onboard Storage Controller
- N/A
- N/A
- N/A
- N/A

### Connectivity
- Single LAN with Intel® Ethernet Controller I210IT Single LAN with Intel® PHY 1291LM LAN controller
- Single LAN with Intel® Ethernet Controller I210IT Single LAN with Intel® PHY 1291LM LAN controller
- Single LAN with Intel® Ethernet Controller I210IT Single LAN with Intel® PHY 1291LM LAN controller
- Single LAN with Intel® Ethernet Controller I210IT Single LAN with Intel® PHY 1291LM LAN controller

### VGA/Audio
- Intel® UHD Graphics 620
- Intel® UHD Graphics 620
- Intel® UHD Graphics 620
- Intel® UHD Graphics 620

### Management
- SuperDoctor® 5, Watchdog, AMT, vPro
- SuperDoctor® 5, Watchdog, AMT, vPro
- SuperDoctor® 5, Watchdog, AMT, vPro
- SuperDoctor® 5, Watchdog, AMT, vPro

### Drive Bays
- 1 SATA 3.0 for 2.5” 7mm SATA HDD
- 1 SATA 3.0 for 2.5” 7mm SATA HDD
- 1 SATA 3.0 for 2.5” 7mm SATA HDD
- 1 SATA 3.0 for 2.5” 7mm SATA HDD

### Peripheral Bays
- N/A
- N/A
- N/A
- N/A

### Power Supply
- Lockable 12V DC 60W power adapter
- Lockable 12V DC 60W power adapter
- Lockable 12V DC 60W power adapter
- Lockable 12V DC 60W power adapter

### Cooling System
- Passive CPU Heat Sink and 1x 40mm Chassis Fan
- Passive CPU Heat Sink and 1x 40mm Chassis Fan
- Passive CPU Heat Sink and 1x 40mm Chassis Fan
- Passive CPU Heat Sink and 1x 40mm Chassis Fan

### Form Factor
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)
- 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
## IoT/Embedded

**Intel® Coffee Lake-S, 8th Gen. Core™**

- Processor: Intel® 8th/9th Generation Core™ i9/Core™ i7/Core™ i5/Core™ i3/ Pentium®/Celeron® series Processor.
- Single Socket LGA-1151 (Socket H4) supported, CPU TDP support up to 65W TDP

**Atom™ C3338 SoC, 2 Cores**

- Processor: Intel® Atom™ C3338 Denvertor Processor, Soc2 2 Core, 9W, 1.5 GHz

**Atom™ E3940 SoC, 4 Cores**

- Processor: Intel® Atom™ E3940 Apollo Lake Processor, Soc4 4 Cores, 9.5W, 1.6 GHz

**Intel® Core™ i3/i5/i7 series, Pentium®, Celeron®**

- Processor: Intel® 6th/7th Generation Core™ i3,i5, i7 series Intel®, Pentium®, Celeron®; CPU TDP support up to 65W TDP

### TABLE: MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5029-C-TN2</th>
<th>SYS-5029A-2TN4</th>
<th>SYS-5029AP-TN2</th>
<th>SYS-5029S-TN2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® 8th/9th Generation Core™ i9/Core™ i7/Core™ i5/Core™ i3/ Pentium®/Celeron® series Processor. Single Socket LGA-1151 (Socket H4) supported, CPU TDP support up to 65W TDP</td>
<td>Intel® Atom™ C3338 Denvertor Processor, Soc2 2 Core, 9W, 1.5 GHz</td>
<td>Intel® Atom™ E3940 Apollo Lake Processor, Soc4 4 Cores, 9.5W, 1.6 GHz</td>
<td>Intel® 6th/7th Generation Core™ i3,i5, i7 series Intel®, Pentium®, Celeron®; CPU TDP support up to 65W TDP</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Surveillance Security Server  
• Compact Storage Appliance  
• Video processing and streaming  
• Small Medium Business Edge Server | • 7 Years Life Cycle  
• Compact Cloud Server  
• Edge Computing Device | • Database Processing & Storage  
• High Performance NAS Servers  
• Medical Applications  
• Security Appliance and Video Surveillance  
• Web Server for Small and Medium Business | • Database Processing & Storage  
• Web Server for Small and Medium Business  
• Medical Applications  
• Security Appliance and Video Surveillance  
• Indoor Kiosk |
| **Outstanding Features** | • Up to 32GB Non ECC SO-DIMM DDR4 2666 MHz  
• TPM chip onboard with jumper disable | • Quad Gigabit Ethernet LAN  
• Up to 4x hot-swap 3.5”SATA3 drives  
• IPMI 2.0 (dedicated LAN) with Virtual Media/KVM over LAN  
• 7 year life cycle | • Up to 4 Hot-Swap 3.5”SATA3 HDD, 1 internal 2.5” fixed HDD and 1 M.2 (M key 2242/80 PCI-E 2.0x2)  
• Embedded long-life  
• 2x Gigabit LAN ports  
• Quiet Operation | • DP, HDMI and DVI-I: 3 independent displays  
• Remote management via vPro technology  
• 2x Gigabit LAN ports  
• Quiet Operation |
| **Serverboard** | SUPER® X11SCV-Q | SUPER® A25Di-2C-HLN4F | SUPER® A25AV | SUPER® X11SSV-Q |
| **Chipset** | System on Chip | System on Chip | System on Chip | Intel® Q170 |
| **System Memory (Max.)** | Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666MHz, in 2 DIMM slots | Up to 128GB RDIMM or 32GB ECC/ NON ECC UDIMM, DDR4-1866MHz in 2 DIMM slots | 8GB Unbuffered non-ECC DDR3-1866 MHz SO-DIMM in 1 DIMM slot | 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots |
| **Expansion Slots** | 1 PCI-E 3.0 x16/Low Profile; 1 M.2  
PCI-E 3.0x4 M Key 2242/2280 | 1x PCI-E 3.0 x2 (in x4 open ended slot) | 1 PCI-E 2.0 x2 in x8 slot, 1 M.2 (M key 2242/80 PCI-E 2.0x2), 1 Mini-Pci-E with mSATA support | 1 x PCI-E 3.0 x16 slot 1 x M.2 (M key 2242/80 PCI-E 3.0x4) 1 x Mini-Pci-E with mSATA support |
| **Onboard Storage Controller** | SoC controller for 6 SATA3 (6 Gbps) ports | Marvel 88SE9230 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10;  
SoC controller for 2 SATA3 (6 Gbps) ports | Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10; |  
 Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10; |
| **Connectivity** | 4 x USB 3.1 (2 type A & 2 type C in rear) | 4 x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB2.0 | 2x 1GbE LAN, 2 USB3.0, 3 USB2.0(2 front, 1 Type A), 1 Serial Port (RJ45)  
ALC 8885 HD Audio | 2x 1GbE, 4 USB3.0, 3 USB2.0 (2 front, 1 Type A), Rx232 ALC 8885 HD Audio |
| **VGA/Audio** | VGA via BMC | 1 HDMI, 1 DP, 1 VGA or 1 eDP; Intel® HD Graphic 3 independent displays | 1 HDMI, 1 DP (Display Port), 1 DVI -D, 1 Intel® HD Graphics 3 Independent Displays |  
 1 HDMI, 1 DP (Display Port), 1 DVI -D, 1 Intel® HD Graphics 3 Independent Displays |
| **Management** | vPro and AMT | vPro and AMT | vPro and AMT | vPro and AMT |
| **Drive Bays** | 4x 3.5” SATA Hot Swap drive bay and 2  
x2.5” internal drive bay | 4x 3.5” hot-swap SAS/SATA 2x 2.5”  
fixed drive bay | 4x 3.5” hot-swap SAS/SATA 1x 2.5”  
fixed drive bay | 4x 3.5” hot-swap SAS/SATA 1x 2.5”  
fixed drive bay |
| **Peripheral Bays** | N/A | 1x slim DVD-ROM drive bay (shared with 1 x 2.5” fixed drive bay) | 1x slim DVD-ROM drive bay (shared with 1 x 2.5” fixed drive bay) | 1x slim DVD-ROM drive bay (shared with 1 x 2.5” fixed drive bay) |
| **Power Supply** | PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply | PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply |
| **Cooling System** | 1x Active CPU cooler | 1x 12cm rear exhaust fan; | 1x 12cm rear exhaust fan; | 1x 12cm rear exhaust fan; |
| **Form Factor** | 210 x 240 x 279mm (8.27" x 9.45" x 11") | 210 x 240 x 279mm (8.27" x 9.45" x 11") | 210 x 240 x 279mm (8.27" x 9.45" x 11") | 210 x 240 x 279mm (8.27" x 9.45" x 11") |

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
## Processor Support
- **SYS-E200-9AP**: Intel® Atom™ E3940 Apollo Lake Processor, SoC 4 Cores, 9.5W, 1.6GHz
- **SYS-E200-9B**: Intel® Pentium® N3700 Processor SoC, 4 Cores, 6W, 1.6GHz
- **SYS-E200-8B**: Intel® Celeron™ J1900 Processor, SoC 4-Core, 10W 2.0GHz

## Key Applications
- **SYS-E200-9AP**: Embedded Applications, Thin Client, Digital Signage, Indoor Kiosk, Networking Appliance
- **SYS-E200-9B**: Embedded Applications
- **SYS-E200-8B**: Embedded Applications, Thin Client, Digital Signage, Indoor Kiosk

## Outstanding Features
- **SYS-E200-9AP**: Cost Effective Embedded Mini ITX System, Low Power Consumption, 1U Compact Mini ITX BOX System, Low power SoC Intel® Pentium™ N3700 (10W, 4C), Dual display for HDMI, Display Port, VGA, Intel® i210AT Quad GbE LAN, 2 x USB 3.0 ports, 2 x USB 2.0 (Rear I/O), COM port (Rear I/O)
- **SYS-E200-9B**: Cost Effective Embedded Mini ITX System
- **SYS-E200-8B**: Cost Effective Embedded Mini ITX System, 1U Compact Mini ITX BOX System, Low power SoC Intel® Celeron™ J1900 (10W, 4C), Dual display for HDMI, Display Port, VGA, Intel® i210AT dual port GbE LAN

## Serverboard
- **SYS-E200-9AP**: SUPER® A2SAV-L
- **SYS-E200-9B**: SUPER® X11SBA-LN4F
- **SYS-E200-8B**: SUPER® X10SBA

## Chipset
- System on Chip
- System on Chip
- System on Chip

## System Memory (Max.)
- **SYS-E200-9AP**: Up to 8GB 1600MHz DDR3 Non-ECC SO-DIMM in 2 sockets
- **SYS-E200-9B**: Up to 8GB 1333MHz DDR3L Non-ECC SO-DIMM in 2 sockets
- **SYS-E200-8B**: Up to 8GB 1600MHz DDR3 Non-ECC SO-DIMM in 2 sockets

## Onboard Storage Controller
- SoC controller for 2 SATA3 (6 Gbps) ports
- SATA 2.0 (3Gb/s) from Intel® SoC, SATA 3.0 (6Gb/s) from Marvell 88SE9230
- SATA 2.0 (3Gb/s) from Intel® SoC

## Connectivity
- 2x 1GbE LAN, 2x USB3.0, 2x USB2.0, 2x Serial Port (RJ45 and DB9)
- 2x 1GbE LAN, 1x dedicate IPMI LAN, 2x USB3.0, 2x USB2.0 Realtek ALC8885 HD Audio
- 2x 1GbE LAN, 1x USB3.0, 1x USB2.0 Realtek ALC8885-VD2 HD Audio

## VGA/Audio
- 1 HDMI, 1 DP, 1 VGA or 1 eDP, Intel® HD Graphic 3 independent displays
- 1 Display Port, 1 HDMI, 1 VGA (Two Independent Displays)
- 1 Display Port, 1 HDMI, 1 VGA (two Independent Displays)

## Management
- SuperDoctor® 5, Watchdog: IPMI 2.0 with KVM support
- SuperDoctor® 5, Watch Dog

## Drive Bays
- 1x 2.5” internal HDD support
- 1x 2.5” internal HDD support

## Peripheral Bays
- N/A
- N/A

## Power Supply
- Lockable 12V DC 40W power adapter
- Lockable 12V DC 60W power adapter
- Lockable 12V DC 60W power adapter

## Form Factor
- 1U Compact Box; Enclosure: 195 x 44 x 195mm (7.68” x 1.75” x 7.68”)
- 195 x 44 x 195mm (7.68” x 1.75” x 7.68”)
- 1U Compact Box; Enclosure: 195 x 44 x 195mm (7.68” x 1.75” x 7.68”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5018A-TN7B</th>
<th>SYS-5018D-MHR7N4P</th>
<th>SYS-5018D-LN4T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Atom™ C2758 Processor, SoC 8-Core, 20W, 2.4GHz</td>
<td>Intel® Xeon® Processor D-1537, SoC 8 Core, 35W, 1.2-2.3GHz</td>
<td>Intel® Pentium® D1508, SoC, Dual Core</td>
</tr>
</tbody>
</table>
| **Key Applications** |  • Network Security Appliance  
• FireWall Applications  
• Virtualization Server  
• Embedded Applications |  • Hyper-Converged Appliance  
• Enterprise Server  
• Edge Computing Server  
• Private Cloud Server  
• Virtualization Server |  • Compact Network Appliance  
• FireWall Applications  
• Software Defined WAN |
| **Outstanding Features** |  • 7xGbE LAN with 3-pair bypass  
• Embedded long-life |  • 4 Hot Swap SATA3/5/AS2 Drive Bays  
• Dual SFP+ and Dual GbE  
• Low Power Xeon® D SoC 8 Core with Dual 10GbE and Dual GbE  
• Remote management via dedicated IPMI BMC  
• 400W high-efficiency redundant power supply  
• 7 year life cycle |  • Dual 10GbE SFP+ and Dual GbE  
• Short depth (less than 10 depth)  
• Intel® Xeon® processor D-1508, Dual-Core, 25W  
• Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets  
• 4 x 2.5” SATA3 HDD, and 1 M.2 (M key 2242/80/110 PCIe 3.0x4) |
| **Serverboard** | SUPER® A1SRM-LN7F-2758 | SUPER® X10SDV-7TP4F | SUPER® X10SDV-2C-TP4F |
| **Chipset** | System on Chip | System on Chip | System on Chip |
| **System Memory (Max.)** | 64GB Unbuffered ECC/non-ECC, DDR3-1600MHz in 4 DIMM slots | Up to 128GB Registered ECC RDIMM, DDR4-2133MHz | Up to 128GB Registered ECC RDIMM, DDR4-2133MHz, DDR4-2133MHz, in 4 DIMM slots |
| **Expansion Slots** | 1 PCI-E 2.0 x4 (in x8) slot | PCI-E 3.0 x8 full height expansion slot; M.2 PCI-E 3.0x4, M Key | PCI-E 3.0 x8; M.2 PCI-E 3.0x4, M Key |
| **Onboard Storage Controller** | SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 ports (6 Gbps) | 4 SATA3 support RAID 0,1,5,10(RSTe) or 4 SAS2 (No RAID support and require one optional cable, CBL-SAST-0811) | SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10 RSTe |
| **Connectivity** | 7x 1GbE (3-pair bypass), 1 dedicated IPMI LAN (share with one LAN), 4x USB2.0, 1 Serial Port (RJ45) | 2x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0, 1 USB2.0 Type A | 2x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0 |
| **VGA/Audio** | VGA via BMC | VGA via BMC | VGA via BMC |
| **Management** | IPMI2.0; NMI; SUM; SuperDoctor* 5; Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor *5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor *5, Watchdog |
| **Drive Bays** | 1x 3.5” fixed drive bay or 4x2.5” drive bay with optional bracket | 4x 3.5” hot-swap SATA3/5AS2(require one optional cable, CBL-SAST-0811) | 1x 3.5” fixed drive bay or up to 4x 2.5” fixed drive bay |
| **Peripheral Bays** | N/A | 1 slim DVD-ROM drive bay | N/A |
| **Power Supply** | 200W Multi-output 80Plus Gold PWS | Redundant 400W Platinum Level power supplies, PWS-407P-1R | 200W Low-Noise AC-DC power supply with PFC |
| **Cooling System** | 2x 4cm counter-rotating PWM fan, support up to 3 system fans | 3x 40x28mm PWM fan for CPU and Memories; 1x 40x28mm PWM fan for AOC cooling | 1x 40x28mm 13K RPM 4-PIN PWM FAN |
| **Form Factor** | Short Depth 1U Rack Mount; Enclosure: 437 x 43 x 287mm (17.2” x 1.7” x 11.3”)  
Package: 645 x 155 x 503mm (25.4” x 6.1” x 19.8”)  
Gross Weight: 12.5lbs (5.69kg)  
Net Weight: 8.45lbs (3.83kg) | 1U Rackmount; Enclosure: 437 x 43 x 503mm (17.2” x 1.7” x 19.8”)  
Package: 610 x 216 x 749mm (24” x 8.5” x 29.5”)  
Gross Weight: 33lbs (14.97kg)  
Net Weight: 20lbs (9.07kg) | 1U Short Depth Rackmount; Enclosure: 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)  
Package: 655 x 155 x 465mm (25.8” x 6.1” x 18.3”)  
Gross Weight: 12lbs (5.44kg)  
Net Weight: 8lbs (3.63kg) |

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### Intel® Xeon® D-1537 SoC, 4-Core

- **Best Performance per Watt**
- **Less than 10” Depth**

### Intel® Xeon® D-1587 SoC 16-Core

### Outstanding Features
- Dual SFP+ and 6x GbE
- Short depth (less than 10 inch)
- Low Power Xeon® D SoC 4 Core
- Best Performance per Watt
- 7 year life cycle
- IPMI 2.0 management with dedicated LAN

### Key Applications
- Networking Appliance
- Network Security Appliance
- FireWall Applications
- Embedded Applications
- Virtualization Server

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<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5018D-FN8T</th>
<th>SYS-1018D-FRN8T</th>
<th>SYS-5018D-FN4T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2 GHz</td>
<td>Intel® Xeon® Processor D-1587 SoC 16 Core, 65W 1.7-2.3GHz</td>
<td>Intel® Xeon® Processor D-1541, &lt;BR&gt;Socket FCBGA1667 supported, CPU TDP support 45W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>Networking Appliance</td>
<td>Network Security Appliance</td>
<td>Network Security Appliance</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>Dual SFP+ and 6x GbE</td>
<td>Short depth (less than 10 inch)</td>
<td>Less than 10&quot; depth</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X10SDV-TP8F</td>
<td>SUPER® X10SDV-7TP8F</td>
<td>SUPER® X10SDV-8C-TLN4F</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>Intel® Xeon® D-1540, SoC</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets</td>
<td>128 GB of DDR4 ECC RDIMM 2133MHz or 64 GB of DDR4 ECC UDIMM 2133MHz</td>
<td>Up to 128GB Registered ECC RDIMM, DDR4-2133MHz</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x8; M.2 PCI-E 3.0x4, M Key 2242/2280/22110, Mini-PCI-E with mSATA support</td>
<td>1 PCI-E 3.0 x8; M.2 PCI-E 3.0x4, M Key 2242/2280/22110, Mini-PCI-E with mSATA support</td>
<td>1x PCI Express 3.0 x16 add-on card slot</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10RSTe; 2116 SW controller for 16 SATA3/ SAS2 (6 Gbps) ports</td>
<td>Intel® SoC-based 2x 3.5&quot; or 4x 2.5&quot; SATA3 bays, SATA DOM support</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>6x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0</td>
<td>6x 1GbE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0</td>
<td>2x GbE + 2x 10G LAN ports 1x dedicated management port 2x USB 3.0 (rear)2x USB 3.0, 4x USB 2.0 ports (via header), 1x M.2 slot (M key for SSD, 2242/2280, PCI-E3.0 x4)</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>Aspeed AST2400 BMC</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA</td>
<td>Integrated remote management with dedicated port</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>1x 3.5” fix drive bay or 4x 2.5” fixed drive bay with bracket</td>
<td>4x 2.5&quot; HDD</td>
<td>Intel® SoC-based 2x 3.5&quot; or 4x 2.5&quot; SATA3 bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>200W Multi-output power supply Gold level w/20pin</td>
<td>Redundant 400W Platinum Level power supplies</td>
<td>PWS-203-1H</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>Passive CPU heat sink and 3x 40mm chassis fans</td>
<td>4x 40x56mm cooling fan</td>
<td>Active CPU fan, 40mm chassis fan</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
<td>1U Rackmount; Enclosure: 437 x 43 x 249mm (17.2” x 1.7” x 9.8”), Package: 686 x 203 x 610mm (27” x 8” x 24&quot;)</td>
<td>1U rackmount form factor, less than 10” depth; Enclosure: 437 x 43 x 249mm (17.2” x 1.7” x 9.8”), Package: 655 x 155 x 465mm (25.8” x 6.1” x 18.3”) Gross Weight: 12lbs (5.44kg), Net Weight: 8lbs (3.63kg)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Low-Power Front I/O Network Appliance for Security Atom™ Appliance

### Intel Atom C2758, 8-Core Rangeley

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### MODEL | SYS-5018A-TN4 | SYS-5018A-FTN4 | SYS-5018A-MHN4
--- | --- | --- | ---
**Processor Support** | Intel® Atom® C2750 | Intel® Atom™ 2758 SoC, 8C, 22nm (Rangeley, 20W) | Intel® Atom™ Processor C2758, SoC 8-Core, 20W, 2.4GHz

### Key Applications

- Application and data serving, Automation, Cloud and Virtualization needs
- Corporate-WINS, DNS, Print, Login, e-Business, Embedded Applications, Hosting & Application delivery, Industrial Automation & Control, NAS Servers, Security

### Outstanding Features

- 1 PCI-E x8 slot
- 200W Low-Noise power supply
- 4x 2.5" SATA drives
- Compact size chassis, cost-effective UP platform
- IPMI 2.0 + KVM with dedicated LAN
- Optimized for small business

### Serverboard

- SUPER® A1SAi-2750F
- SUPER® A1SRi-2758F
- SUPER® A1SRM-2758F

### Chipset

- System on Chip
- System on Chip
- System on Chip

### System Memory (Max.)

- Up to 32GB ECC DDR3 1600/1333MHz SODIMM in 4 DIMM slots
- Up to 32GB DDR3-1600 Un-buffered ECC-SODIMM
- Up to 64GB ECC/non-ECC UDIMM, DDR3-1600MHz in 4 sockets

### Expansion Slots

- 1x PCI-E 2.0 x8 slot via riser card
- 1 PCI Express 2.0 x8 on riser
- 1 PCI-E 2.0 x8(FH,HL)

### Onboard Storage Controller

- SoC controller for 4 SATA2 (3Gbps) ports; 2 SATA3 (6Gbps)
- N/A
- SoC controller for 4 SATA2 (3 Gbps); 2 SATA3 (6 Gbps)

### Price Connectivity

- 4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header)
- 4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header) 1x SATA DOM (Disk on Module) power connector
- 4x 1Gbe LAN, 1 dedicate IPMI LAN, 4 USB2.0, 1 serial port(DB9)

### VGA/Audio

- AST2400 VGA
- 4x USB3.0, 2 x USB2.0
- BMC integrated Aspeed AST2400, 1x VGA port
- VGA via BMC

### Management

- IPMI 2.0 + KVM with dedicated LAN
- IPMI 2.0 on dedicated LAN port
- IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog

### Drive Bays

- 2x 3.5" fixed HDD (no expansion slot), or
- 1x 3.5" fixed HDD (low profile slot only), or
- 4x 2.5" fixed HDD (no expansion slot), or
- 2x 2.5" fixed HDD (full height and half length)
- 2x 3.5" fixed SATA3 (opt 4x 2.5")
- 1x 3.5" fixed drive bay or up to 4x 2.5" fixed drive bay

### Peripheral Bays

- N/A
- N/A
- 1 slim DVD-ROM drive bay

### Power Supply

- 200W Low-Noise AC-DC power supply with PFC
- 200W
- 200W Low Noise AC-DC power supply with PFC

### Cooling System

- Built-in CPU heatsink; optional 40x28mm fan; 1x high-efficiency power supply with thermal control fan
- 1x High-efficiency power supply with thermal control fan; up to 3x 40mm fan (optional, require mounting bracket)
- 2x 4cm high performance PWM fan

### Form Factor

- Mini-1U Rackmount 437 x 43 x 249mm (17.2" x 1.7" x 9.8")
- 1U compact, less than 10" (1U Rackmount; Enclosure: 437 x 43 x 504mm (17.2" x 1.7" x 19.85")
- Package: 594 x 216 x 754mm (23.4" x 8.5" x 29.7")

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### Model Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5028L-TN2</th>
<th>SYS-5028A-TN4</th>
<th>SYS-5028D-TN4T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Xeon® E3-1200 v3 and 4 Gen. Core i3/i5/i7, Celeron®, Pentium®</td>
<td>Intel® Atom® C2758 Processor, SoC 8-Core, 20W, 2.4GHz</td>
<td>Intel® Xeon® Processor D-1541 SoC 8 Core 16 Thread, TDP 45W</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Compact Cloud Server  
• Database Processing & Storage  
• High Performance NAS Servers  
• Business Intelligence  
• Security Appliance and Video Surveillance  
• Web Server for Small and Medium Business | • Embedded Applications  
• Cloud and Virtualization needs  
• NAS Servers  
• SOHO Entry-Level Server  
• Corporate- WINS, DNS, Print, Login  
• e-Business | • Network Security Appliance  
• Compact Cloud Server  
• High Performance NAS Servers  
• Virtualization Server  
• Business Critical Applications  
• Web Server for Small and Medium Business |
| **Outstanding Features** | • Up to 4 Hot-Swap 3.5”SATA3 HDD and 2 internal 2.5” fixed HDD  
• DP, HDMI and DVI-I: 3 independent displays  
• 2x Gigabit LAN ports  
• TPM 1.2 Headers  
• Up to 16GB DDR3 non-ECC 1600MHz SODIMM  
• 1x PCI-E 3.0 x16 slot | • 4x 3.5"SATA Hot Swap Tray and 2 x2.5" internal HDD bay  
• Support up to 64G ECC SODIMM  
• One low profile expansion slot for PCI-E2.0x8 | • Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets  
• 2x Gigabit + 2x 10G LAN ports  
• Up to 4 Hot-Swap 3.5”SATA3 HDD and 2 internal 2.5” fixed HDD  
• IPMI 2.0 + KWM with dedicated LAN  
• 1x Low Profile PCI-E 3.0 x16 and 1x M.2 PCI-E 3.0 x4, M Key 2242/2280 |
| **Serverboard** | SUPER® X10SLV-Q | SUPER® A1SRi-2758F | SUPER® X10SDV-TLN4F |
| **Chipset** | Intel® Q87 chipset | System on Chip | System on Chip |
| **System Memory (Max.)** | 16 GB, DDR3-1600MHz non-ECC SODIMM in 2 sockets | Up to 64GB DDR3 1600MHz ECC SODIMM in 4 DIMM sockets | 128GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC, DDR4-2133MHz in 4 DIMM slots |
| **Expansion Slots** | 1x PCI-E 3.0 x16 slot 1x Mini-PCI-E w/ mSATA support | PCI-E 2.0 x8 | 1 PCI-E 3.0 x16(Low Profile); 1 M.2 PCI-E 3.0x4 M Key 2242/2280 |
| **Onboard Storage Controller** | SoC controller for 4x SATA 3.0 ports (6Gbps) with RAID 0.1.5.10 | SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 (6 Gbps) | SoC controller for 6 SATA3 (6 Gbps) ports |
| **Connectivity** | 2x 1GbE LAN, 2 USB3.0, 2 USB2.0 | 4x 1GbE LAN, 1 dedicate IPMI LAN, 2 USB3.0, 2 USB2.0, 1 serial port(DB9) | 2x 1GbE LAN, 2x 10GBase-T LAN, 1 dedicate IPMI LAN, 2 USB3.0(rear), 2 USB2.0(front) |
| **VGA/Audio** | Intel® HD 4600 Graphics, 1 DisplayPort, 1 HDMI, 1 DVI-I, 3 Independent Displays | VGA via BMC | VGA via BMC |
| **Management** | SuperDoctor® III Watch Dog NMI | IPMI2.0; NMI; SuperDoctor V; Watch Dog; | |
| **Drive Bays** | 4x 3.5” hot-swap SAS/SATA drive bay | 4x 3.5” SATA Hot Swap drive bay and 2 x2.5" internal drive bay | 4x 3.5” SATA Hot Swap drive bay and 2 x2.5" internal drive bay |
| **Peripheral Bays** | 1 slim DVD-ROM drive bay (share with one 3.5” drive bay) | 1 slim DVD-ROM drive bay (share with one 2.5” drive bay) | 1 slim DVD-ROM drive bay (shared with 1x 2.5” fixed drive bay) |
| **Power Supply** | No Redundant 1 Qty. PWS-251-1H | 250W Flex ATX Multi-output Bronze Power Supply | |
| **Cooling System** | 1x 12cm rear exhaust fan, SNK-P0046A4 (optional) | 1x 12cm rear exhaust fan | 1x Active CPU cooler |
| **Form Factor** | 210 x 240 x 279mm (8.27” x 9.45” x 11”) | 210 x 240 x 279mm (8.27” x 9.45” x 11”) | 210 x 240 x 279mm (8.27” x 9.45” x 11”) |

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
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<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019S-M2</th>
<th>SYS-1019S-M2</th>
<th>SYS-5019S-TN4</th>
<th>SYS-1019S-MP</th>
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<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® 6th/7th Generation Core™ i3, i5, i7 series Intel®, Pentium®, Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v5 series, Intel® Xeon® processor E3-1200 v6.</td>
<td>Intel® 6th/7th Generation Core™ i3, i5, i7 series Intel®, Pentium®, Celeron®</td>
<td>Intel® Xeon® Processor Skylake-H E3-1585v5 SoC, 4 Cores, 65W</td>
<td>Intel® Xeon® Processor E3-1515M v5 (Skylake-H), Single socket FCBGA 1440, 4-Core, 8 Threads, 45W</td>
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<tr>
<td><strong>Key Applications</strong></td>
<td>- Security and Surveillance Application Server</td>
<td>- Industrial Automation &amp; Control</td>
<td>- Virtual Hosted Desktop(VHD)</td>
<td>- Digital Signage</td>
</tr>
<tr>
<td></td>
<td>- Appliance Server</td>
<td>- Military Compact Server</td>
<td>- Digital Recording System</td>
<td>- Kiosk, Interactive information system</td>
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<tr>
<td></td>
<td>- Secure Storage</td>
<td>- VOIP and Network Appliances</td>
<td>- Media/Content Streaming Server</td>
<td>- Media Streaming server</td>
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<tr>
<td></td>
<td>- Rack Workstation</td>
<td>- Medical Applications</td>
<td>- Support Intel® Quick Sync Video</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- 7 Year Life Cycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>- 4x 3.5&quot; SATA3 hot-swap drive bays</td>
<td>- 6th/7th Generation Intel® Core i7, i5, i3, Pentium and Celeron Processor</td>
<td>- Faster Transcoding for Web Streaming</td>
<td>- Intel® Iris Pro Graphics with 128M B of on-Package cache (eDRAM) for high performance graphics</td>
</tr>
<tr>
<td></td>
<td>- 2x Gigabit LAN with AMT</td>
<td>- Remote management via IPMI or vPro</td>
<td>- Intel® HD Graphics, Aspeed AST2400</td>
<td>- Intel® Iris Pro Graphics P580 with 128MB of on-Package cache (eDRAM) for high performance graphics</td>
</tr>
<tr>
<td></td>
<td>- 7 year life cycle</td>
<td>- 3 independent displays</td>
<td>- 4x SA3(6Gbps) via C236; RAID 0, 1, 5, 10</td>
<td>- HDMI, Display Port, DVI-I, 3 independent displays</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SSZ-F</td>
<td>SUPER® X11SSZ-QF</td>
<td>SUPER® X11SSV-MAF</td>
<td>SUPER® X11SSV-M4</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C236 chipset</td>
<td>Intel® Q170 Express chipset</td>
<td>System On Chip</td>
<td>Intel® CM236 chipset</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 32GB ECC/Non-ECC Unbuffered SO-DIMM DDR4 2133MHz; 2 DIMM slots</td>
<td>Up to 32GB ECC/Non-ECC Unbuffered SO-DIMM DDR4 2133MHz; 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI Express 3.0 x16 FH, HL slot</td>
<td>1 PCI-E 3.0 x16</td>
<td>1x PCI-E 3.0 x16 1x M.2 (M key, 2242/80/110, PCI-E3.0 x4 or SATA3) 1x Mini PCI-E w/ mSATA Intel® C236 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Intel® RSTe 4x 1GbE LAN, 1 dedicated IPMI LAN, 4 USB 3.0</td>
<td>1 Mini-PCI-E (mSATA support), 1 M.2 PCI-E 3.0 x4 (SATA support), M Key 2242/80 Intel® CM236 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10, Intel® RSTe 4x 1GbE LAN, 4 USB 3.0</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® C236 chipset</td>
<td>Intel® Q170 Express controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Intel® RSTe 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0</td>
<td>Intel® Q170 Express controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Intel® RSTe 2x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0</td>
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<td>1x GbE Port, DVI-I, 3</td>
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<td>intel C236 controller for Intel® Iris Pro Graphics P580,3 independent displays</td>
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<tr>
<td><strong>Management</strong></td>
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<td>Intel® RSTe</td>
<td>Intel® RSTe</td>
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<td><strong>Drive Bays</strong></td>
<td>4x 3.5&quot; hot-swap SAS/SATA</td>
<td>4x 3.5&quot; fixed with bracket</td>
<td>1 HDMI2.0, 1 DP1.2, 1 DVI-I, Intel® Iris Pro Graphics P580,3 independent displays</td>
<td>1 HDMI2.0, 1 DP1.2, 1 DVI-I, Intel® Iris Pro Graphics P580,3 independent displays</td>
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<tr>
<td><strong>Peripheral Bays</strong></td>
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<td><strong>Power Supply</strong></td>
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<td>200W Low Noise AC-DC power supply with PFC</td>
<td>84W DC power adapter</td>
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<tr>
<td><strong>Cooling System</strong></td>
<td>4x 40x28mm PWM fan; 2x 40x28mm PWM fan(option) 4x 40x56mm PWM fan</td>
<td>4x 40x28mm 4-PIN PWM FAN(FAN-0054L4, 22K RPM) with air shroud</td>
<td>2x 6cm cooling fan</td>
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<td>437 x 43 x 429mm (17.2&quot; x 1.7&quot; x 16.9&quot;) 10 Rackmount; Enclosure: 437 x 43 x 610mm (27&quot; x 8&quot; x 24&quot;)</td>
<td>437 x 43 x 429mm (17.2&quot; x 1.7&quot; x 16.9&quot;) Package: 686 x 203 x 610mm (27&quot; x 8&quot; x 24&quot;)</td>
<td>195 x 68 x 195mm (7.68&quot; x 2.68&quot; x 7.68&quot;)</td>
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*Please check with your Supermicro sales representative and website for compatibility and configuration details.

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**IoT/Embedded**

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**Security and Surveillance Appliance UP Server**

**vPro, 3 Independent Displays**

**Skyline-H, SoC, 4 Cores**

**Video Transcoding and Streaming, Compact Box**
## Model Comparison

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<td>Dual Intel® Xeon® Processor E5-2600 v4/v3 product families supported; QPI up to 9.6GT/s</td>
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<td>• Data Center</td>
<td>• Data Center</td>
<td>• Cloud and Virtualization needs, Cloud Computing, Corporate-WINS, DNS, Print, Login, Data Center, Database Applications, DataCenter Applications</td>
<td>• Cloud and Virtualization needs, Cloud Computing, Corporate-WINS, DNS, Print, Login, Data Center, Database Applications, DataCenter Applications</td>
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<td>• Web Server</td>
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<td>• Hosting &amp; Application delivery</td>
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<td>• e-Business, Enterprise Server</td>
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<td>• Database Processing &amp; Storage</td>
<td>• Database Processing &amp; Storage</td>
<td>• FireWall Applications, Gateway, provisioning servers, High End Enterprise Server, Server Appliance</td>
<td>• FireWall Applications, Gateway, provisioning servers, High End Enterprise Server, Server Appliance</td>
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<td></td>
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<td>• Simulation &amp; Automation</td>
<td>• Virtualization Server</td>
<td>• Virtualization Server</td>
<td>• Virtualization Server</td>
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<td>Outstanding Features</td>
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<td>• 600W Platinum Level high-efficiency power supply</td>
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<td>• 1 PCI-E x8 slot</td>
<td>• 1 PCI-E x8 slot</td>
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<td>• Short-Depth</td>
<td>• IPMI 2.0 + KVM with Dedicated LAN</td>
<td>• 200W low-power supply</td>
<td>• 2 Internal 3.5&quot; SATA drive bays</td>
<td>• 2 Internal 3.5&quot; SATA drive bays</td>
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<td>• 200W low-power supply</td>
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<td>• Up to 3 add-on cards</td>
<td>• IPMI 2.0 + KVM with dedicated LAN</td>
<td>• Compact size chassis</td>
<td>• Compact size chassis</td>
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<td>• Optimized for Power Saving and Improved Cooling</td>
<td>• Cost effective UP platform</td>
<td>• Cost effective UP platform</td>
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<td>• IPMI 2.0 + KVM with dedicated LAN</td>
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<td>• SATA 3.0 (6Gbps) support</td>
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<td>Intel® C612 Chipset</td>
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<td>System on Chip chipset</td>
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<td>System Memory (Max.)</td>
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<td>Up to 2TB ECC 3DS LRDIMM or RDIMM DDR4-2400MHz in 16 DIMM slots</td>
<td>Up to 64GB ECC/non-ECC, DDR3-1600MHz in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC, DDR3-1600MHz in 4 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8</td>
<td>2 PCI-E 3.0 x16 (Full-Height, Half-Length)</td>
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<td>1 PCI-E 2.0 x8 (FH/HL)</td>
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<tr>
<td>Onboard Storage</td>
<td>3108 HW with 2G Cache controller for 8 SAS3 (12Gbps) ports; RAID 0,1,5,10,6,10,60; Intel® C612 controller for 6 SATA3 (6Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C612 controller for 8 SATA3 (6Gbps) Ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA2 (3Gbps) ports; RAID 2 SATA3 (6Gbps)</td>
<td>SoC controller for 4 SATA2 (3Gbps) ports; RAID 2 SATA3 (6Gbps)</td>
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<tr>
<td>Connectivity</td>
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<td>Quad LAN with SoC</td>
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<td>AST2400 VGA</td>
<td>AST2400 VGA</td>
<td>AST2400 VGA</td>
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<td>Management</td>
<td>IPMI 2.0 + KVM with dedicated LAN, Intel® Node Manager, SUM, SPM, SSM, SuperDoctor V’; Watchdog</td>
<td>IPMI 2.0 + KVM with dedicated LAN, Intel® Node Manager, SUM, SPM, SSM, SuperDoctor V’; Watchdog</td>
<td>IPMI2.0; NMI; SuperDoctor V; Watchdog</td>
<td>IPMI2.0; NMI; SuperDoctor V; Watchdog</td>
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<tr>
<td>Drive Bays</td>
<td>8x 2.5&quot; hot-swap SATA/SAS drive bays</td>
<td>8x 2.5&quot; hot-swap SATA HHD drive bays</td>
<td>4x 3.5&quot; hot-swap SAS/SATA</td>
<td>2x 3.5&quot; internal drive bays</td>
<td>4x 2.5&quot; fixed SATA3 (optional)</td>
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<tr>
<td>Peripheral Bays</td>
<td>1 slim DVD-ROM drive (optional)</td>
<td>1 slim DVD-ROM drive (optional)</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Power Supply</td>
<td>- MCT: 600W Platinum Level high-efficiency power supply</td>
<td>600W Platinum Level high-efficiency power supply</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
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<td>- MCTR: Redundant 600W Platinum Level high-efficiency power supplies</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
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<tr>
<td>Cooling System</td>
<td>4x 4cm high performance PWM fans with optimal fan speed control</td>
<td>5x 4cm heavy duty counter-rotating fans with optimal fan speed control</td>
<td>2x 4cm high performance PWM fans</td>
<td>1x 10cm 3,800 RPM PWM blower fan</td>
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<tr>
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<td>1U Rackmount 437 x 43 x 503mm (17.2” x 1.7” x 19.8&quot;)</td>
<td>1U Rackmount 437 x 43 x 597mm (17.2” x 1.7” x 23.5&quot;)</td>
<td>1U rackmount 437 x 43 x 503mm (17.2” x 1.7” x 19.85&quot;)</td>
<td>1U rackmount 426 x 43 x 356mm (16.8” x 1.7” x 14&quot;)</td>
<td></td>
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</table>
**Embedded Chassis Selection Guide**

**Fanless/IoT Gateway**
- Fanless & robust design
- Low power consumption
- Wide-range working temperature & voltage

**Compact Mini Tower**
- Support up to 80W TDP processor
- Hot-swap 3.5” HDD for RAID
- Low profile expansion slot for diversified application

**IPC**
- Rackmount with expansion capabilities
- Flexible Front I/O
- Up to 11 PCI-E Expansion slots

**Compact Box System**
- Building block design
- Commercial off-the-shelf with extended product life cycle
- Easy deployment

**1U Rack System**
- 1U Rackmount with advanced cooling design
- Flexible I/O at front and rear
- Remote Management & FW upgrade via IPMI 2.0

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**Front Bezel/LCD**

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<th>Model</th>
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<td>MCP-220-82502-0B</td>
<td>Front bezel with lock</td>
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**Chassis**

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<td>Wall_Mount</td>
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<tr>
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<td>3.5” SBC/Pico-ITX</td>
<td>Compact Box</td>
<td>DC Power Adapter</td>
<td>10” x 8.9” x 1.7” (254 x 226 x 44mm)</td>
</tr>
<tr>
<td>SCE300-LED</td>
<td>3.5” SBC/Pico-ITX</td>
<td>Compact Box</td>
<td>DC Power Adapter</td>
<td>10” x 8.9” x 1.7” (254 x 226 x 44mm)</td>
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<tr>
<td>SCE300</td>
<td>3.5” SBC/Pico-ITX</td>
<td>Compact Box</td>
<td>DC Power Adapter</td>
<td>7.6” x 8.8” x 1.7” (195 x 226 x 44mm)</td>
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<td>SCE101F</td>
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<td>Compact Box</td>
<td>DC Power Adapter</td>
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<td>Compact Box</td>
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<td>SCE101i</td>
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<td>Compact Box</td>
<td>DC Power Adapter</td>
<td>7.6” x 8.8” x 1.7” (195 x 226 x 44mm)</td>
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<td>SCE101iF</td>
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<td>SC101S</td>
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<td>Compact Mini Tower</td>
<td>250W Flex ATX Multi-output Bronze Power Supply</td>
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<td>1x full-height, half-length**</td>
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<td>17.2”x9.8”x1.7” 437 x 249 x 43 mm</td>
<td>17.2”x11.3”x1.7” 437 x 287 x 43 mm</td>
<td>17.2”x9.8”x1.7” 437 x 249 x 43 mm</td>
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* When AOC area not occupied
** When HDD area not occupied

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<td>15” Mini 1U</td>
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<td>Dual and single processors</td>
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<td>Dual and single processors</td>
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<td>2x Fixed 2.5” or 3.5” Sata 2x 2.5” hot-swap drive bay Optional 4x 2.5” fixed with bracket</td>
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<td>Up to 2x 2.5” fixed with bracket • SAS or enterprise SATA HDD</td>
<td>2x Fixed 2.5” HDD***</td>
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<td>500W High-efficiency Power Supply 80 PLUS® Platinum Certified</td>
<td>400W (1+1) Redundant SuperCompact Platinum-level power supply with PMBus and I2C</td>
<td></td>
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<tr>
<td>Dimensions (WxDxH)</td>
<td>17.2”x15”x1.7” 437 x 381 x 43 mm</td>
<td>17.2”x14.5”x1.7” 437 x 369 x 43 mm</td>
<td>17.2”x15”x1.7” 437 x 381 x 43 mm</td>
<td>17.2”x16.9”x1.7” 437 x 429 x 43 mm</td>
<td>17.2”x16.9”x1.7” 437 x 429 x 43 mm</td>
<td>17.2”x16.9”x1.7” 437 x 429 x 43 mm</td>
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</tbody>
</table>

*** Extra 2x 2.5” Fixed HDD with ATX MB or Extra 1x 3.5” or 2x2.5 Fixed HDD with WIO and Half Length Add on Card.
### NEW! X12 UP Serverboards

#### 3rd Gen Intel® Xeon® Scalable processors Supported

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<th>MODEL</th>
<th>X12SPO-F</th>
<th>X12SPO-NTF</th>
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</table>
| **Processor** | 3rd Gen Intel® Xeon® Scalable processors  
Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP | 3rd Gen Intel® Xeon® Scalable processors  
Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP |
| **Chipset** | Intel® C621A | Intel® C621A |
| **Form Factor** | ATX,  
12” x 10” (30.48cm x 25.4cm) | ATX,  
12” x 10” (30.48cm x 25.4cm) |
| **Optimized Chassis** | 813MF2TQC-50SCB  
813MF2TQC4-R407CB  
116AC10-R860CB-N10 | 813MF2TQC-50SCB  
813MF2TQC4-R407CB  
116AC10-R860CB-N10 |
| **Memory Capacity & Slots** | Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz  
Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots | Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz  
Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots |
| **Expansion Slots** | 1 PCI-E 4.0 x16,  
2 PCI-E 4.0 NVMe x8 Internal Port(s)  
M.2 Interface: 2 SATA/PCI-E 3.0 x4  
M.2 Form Factor: 2280/22110  
M.2 Key: M-Key | 1 PCI-E 4.0 x16,  
5 PCI-E 4.0 NVMe x8 Internal Port(s)  
M.2 Interface: 2 SATA/PCI-E 3.0 x4  
M.2 Form Factor: 2280/22110  
M.2 Key: M-Key |
| **Onboard RAID Controller** | Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10 | Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10 |
| **Onboard LAN** | Dual LAN with Intel® i350 Gigabit Ethernet Controller | Dual LAN with Intel® X550 10GBase-T Ethernet Controller |
| **Onboard VGA** | 1 VGA port,  
ASPEED AST2600 BMC | 1 VGA port,  
ASPEED AST2600 BMC |
| **USB Ports** | 6 USB 2.0 ports (2 rear + 4 via headers)  
5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A) | 6 USB 2.0 ports (2 rear + 4 via headers)  
5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A) |
| **Other Onboard I/O Devices** | TPM Header  
2 COM Ports (1 rear, 1 header) | TPM Header  
2 COM Ports (1 rear, 1 header) |
| **Manageability** | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM,  
SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM,  
SuperDoctor® 5, Watchdog |
<p>| <strong>PC Health Monitoring</strong> | +1.8V, +12V, +3.3V, +5V, -5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT | +1.8V, +12V, +3.3V, +5V, -5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT |
| <strong>Other Features</strong> | ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL | ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL |
| <strong>BIOS</strong> | AMI UEFI | AMI UEFI |</p>
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<th>X12SPL-LN4F</th>
<th>X12SPW-F</th>
<th>X12SPW-TF</th>
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<tbody>
<tr>
<td>Processor</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td>Form Factor</td>
<td>ATX, 12.1” x 10” (30.73cm x 25.4cm)</td>
<td>ATX, 12.1” x 10” (30.73cm x 25.4cm)</td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz, up to 27B 3DS ECC LRDIMM, DDR4-3200MHz</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz; up to 27B 3DS ECC LRDIMM, DDR4-3200MHz</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz, up to 27B 3DS ECC LRDIMM, DDR4-3200MHz</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz, up to 27B 3DS ECC LRDIMM, DDR4-3200MHz</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCI-E 4.0 x8, 1 PCI-E 4.0 x8 (in x16 slot)</td>
<td>2 PCI-E 4.0 x8, 1 PCI-E 4.0 x8 (in x16 slot)</td>
<td>1 PCI-E 4.0 x8, 1 PCI-E 4.0 x8 (in x16 slot)</td>
<td>1 PCI-E 4.0 x8, 4 PCI-E 4.0 NVMe x4 Internal Port(s)</td>
</tr>
<tr>
<td>M.2 Interface</td>
<td>M.2 Form Factor: 1 SATA/PICI-E 3.0 x4</td>
<td>M.2 Form Factor: 1 SATA/PICI-E 3.0 x4</td>
<td>M.2 Form Factor: 1 SATA/PICI-E 3.0 x4</td>
<td>M.2 Form Factor: 1 SATA/PICI-E 3.0 x4</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Quad LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with 1GbE with Intel® X550</td>
<td>Dual LAN with 10GbE with Intel® X550</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers) 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>2 ports SuperDOM TPM Header</td>
<td>2 ports SuperDOM TPM Header</td>
</tr>
<tr>
<td>Managementability</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SDU, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SDU, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SDU, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SDU, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion, Chassis intrusion detection, Chassis intrusion header, RoHS, RoF, UID, WOL</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion, Chassis intrusion detection, Chassis intrusion header, RoHS, RoF, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
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**NEW! X12 UP Serverboards**

3rd Gen Intel® Xeon® Scalable processors Supported

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**Embbeded/IoT Building Block Solutions - September 2022**
### MODEL

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<th>Chipset</th>
<th>Expansion Slots</th>
<th>Memory Capacity &amp; Slots</th>
<th>BIOS</th>
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<tr>
<td>10th Generation Intel® Pentium® Processor, Intel® Core i5-12400F</td>
<td>Intel® C256</td>
<td>1 PCIe-E 4.0 x4</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz</td>
<td>UEFI 256Mb</td>
</tr>
<tr>
<td>Intel® C256</td>
<td></td>
<td></td>
<td>in 4 DIMM slots</td>
<td></td>
</tr>
<tr>
<td>Intel® C252</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Intel® C252</td>
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<tr>
<td>Intel® C252</td>
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<td></td>
</tr>
</tbody>
</table>

### BIOS

- **UEFI 256Mb**
- **UEFI 256Mb**
- **AMI UEFI**
- **AMI UEFI**

### Onboard RAID Controller

- **Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10**
- **Intel® C252 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10**
- **Intel® C252 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10**

### Onboard LAN

- **Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10**
- **Dual LAN with Intel® i210 Gigabit Ethernet Controller**
- **Dual LAN with Intel® i210 Gigabit Ethernet Controller**

### Onboard VGA

- **1 VGA port**
- **1 VGA port**
- **1 VGA port**

### USB Ports

- **6 USB 2.0 ports (2 rear + 4 via headers)**
- **6 USB 2.0 ports (2 rear + 4 via headers)**
- **6 USB 2.0 ports (2 rear + 4 via headers)**

### Other Onboard I/O Devices

- **TPM 2.0 Header**
- **TPM 2.0 Header**
- **TPM 2.0 Header**

### Manageability

- **Intel® Node Manager, IPMI2.0, NMI, SPD, SSM, SUM, SuperDoctor® 5, Watchdog**
- **Intel® Node Manager, IPMI2.0, NMI, SPD, SSM, SUM, SuperDoctor® 5, Watchdog**
- **Intel® Node Manager, IPMI2.0, NMI, SPD, SSM, SUM, SuperDoctor® 5, Watchdog**

### PC Health Monitoring

- **ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL**
- **ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL**
- **ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL**

### Other Features

- **ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID**
- **ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID**
- **ATX Power connector, Chassis intrusion header, Dual Cooling Zones, UID**
### Embedded/IoT Building Block Solutions - September 2022

#### NEW! X12 UP Serverboars

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<th>MODEL</th>
<th>Embedded Ready Quad 1GbE</th>
<th>Embedded Ready Dual 1GbE + Quad 1GbE</th>
<th>Embedded Ready Dual 10GbE</th>
<th>High Performance</th>
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**3rd Gen Intel® Xeon® Scalable processors Supported**

**Processor**
- 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP
- 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP
- 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP
- 3rd Gen Intel® Xeon® Scalable Processors; Single Socket LGA-4189 (Socket P+) supported, CPU TDP support up to 270W TDP

**Chipset**
- Intel® C621A
- Intel® C621A
- Intel® C621A
- Intel® C621A

**Form Factor**
- microATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- microATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- microATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- microATX, 9.6" x 9.6" (24.38cm x 24.38cm)

**Optimized Chassis**
- Form Factor microATX
- Chipset Intel® C621A
- Processor Intel® Xeon®

**Memory Capacity & Slots**
- Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
- Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz

**Expansion Slots**
- 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x16, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x16, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x16, 4 PCI-E 4.0 NVMe x4 Internal Port(s)
- 1 PCI-E 4.0 x8, 2 PCI-E 4.0 x16, 4 PCI-E 4.0 NVMe x4 Internal Port(s)

**Onboard RAID Controller**
- Intel® C621A controller for 10 SATA(6 Gbps) ports, RAID 0,1,5,10
- Intel® C621A controller for 10 SATA(6 Gbps) ports, RAID 0,1,5,10
- Intel® C621A controller for 10 SATA(6 Gbps) ports, RAID 0,1,5,10
- Intel® C621A controller for 10 SATA(6 Gbps) ports, RAID 0,1,5,10

**Onboard LAN**
- Quad LAN with 1GbE with Intel® I350-AM4
- Dual LAN with 10GbE-T with Intel® X550
- Dual LAN with 10GbE-T with Intel® X550
- Dual LAN with 10GbE-T with Intel® X550

**Onboard VGA**
- 1 VGA port, ASPEED AST2600 BMC
- 1 VGA port, ASPEED AST2600 BMC
- 1 VGA port, ASPEED AST2600 BMC
- 1 VGA port, ASPEED AST2600 BMC

**USB Ports**
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 6 USB 2.0 ports (2 rear + 4 via headers)
- 6 USB 2.0 ports (2 rear + 4 via headers)

**Other Onboard I/O Devices**
- 2 ports SuperDOM TPM Header
- 2 ports SuperDOM TPM Header
- 2 ports SuperDOM TPM Header
- 2 ports SuperDOM TPM Header

**BIOS**
- AMI UEFI
- AMI UEFI
- AMI UEFI
- AMI UEFI

**PC Health Monitoring**
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- ACPI power management, ATX Power connector, Chassis intrusion detection, Dual Cooling Zones, NCSI header, RoHS, Ro, UID

**Other Features**
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL
- ACPI power management, ATX Power connector, Chassis intrusion detection, Dual Cooling Zones, NCSI header, RoHS, Ro, UID

**Dimensions**
- 9.6" x 9.6" (24.38cm x 24.38cm)
- 12.1" x 10" (30.73cm x 25.4cm)
- 9.6" x 9.6" (24.38cm x 24.38cm)
- 9.6" x 9.6" (24.38cm x 24.38cm)

**Supported processors**
- Intel® Xeon®
- Intel® Xeon®
- Intel® Xeon®
- Intel® Xeon®
## X13 SAN-C-WOHS

**Processor**
- Intel® Celeron® Processor 7305E; up to 15W TDP
- 3rd Gen Intel® Core™ i3-1215U Processor; up to 15W TDP

**Chipset**
- System on Chip (SoC)

**Memory Capacity & Slots**
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots

**Expansion Slots**
- 3 M.2 slots: B-Key, M-Key, E-Key

**Onboard RAID Controller**
- N/A

**Onboard LAN**
- Dual LAN with Intel® Ethernet Controller I225-IT

**Onboard VGA**
- 2 HDMI ports, 2 DP (Type-C Alt mode) ports

**USB Ports**
- 4 US 2.0 ports (4 via headers)
- 4 USB 3.2 Gen2 ports (2 Rear Type A + 1 Rear Type C)

**Other Onboard I/O Devices**
- 1 USB3.0 port (1 via box header)

**Manageability**
- SuperDoctor® 5, Watchdog
- -WOHS: w/o Heatsink

**PC Health Monitoring**
- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, VOLT, AMI UEFI

**BIOS**
- AMI UEFI

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## X13 SAN-L-WOHS

**Processor**
- Intel® Celeron® Processor 7305E; up to 15W TDP

**Chipset**
- System on Chip (SoC)

**Memory Capacity & Slots**
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots

**Expansion Slots**
- 3 M.2 slots: B-Key, M-Key, E-Key

**Onboard RAID Controller**
- N/A

**Onboard LAN**
- Dual LAN with Intel® Ethernet Controller I225-IT

**Onboard VGA**
- 2 HDMI ports, 2 DP (Type-C Alt mode) ports

**USB Ports**
- 4 US 2.0 ports (4 via headers)
- 4 USB 3.2 Gen2 ports (2 Rear Type A + 1 Rear Type C)

**Other Onboard I/O Devices**
- 1 USB3.0 port (1 via box header)

**Manageability**
- SuperDoctor® 5, Watchdog
- -WOHS: w/o Heatsink

**PC Health Monitoring**
- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOLT, AMI UEFI

**BIOS**
- AMI UEFI

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## X13 SAN-E-WOHS

**Processor**
- 12th Generation Intel® Core™ i7-1185G7RE Processor; up to 12/15/28W TDP

**Chipset**
- System on Chip (SoC)

**Memory Capacity & Slots**
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots

**Expansion Slots**
- 3 M.2 slots: B-Key, M-Key, E-Key

**Onboard RAID Controller**
- N/A

**Onboard LAN**
- Dual LAN with Intel® Ethernet Controller I225-IT

**Onboard VGA**
- 2 HDMI ports, 2 DP (Type-C Alt mode) ports

**USB Ports**
- 4 US 2.0 ports (4 via headers)
- 4 USB 3.2 Gen2 ports (2 Rear Type A + 1 Rear Type C)

**Other Onboard I/O Devices**
- 1 USB3.0 port (1 via box header)

**Manageability**
- SuperDoctor® 5, Watchdog, vPro, AMT, SuperDoctor® 5, Watchdog
- -WOHS: w/o Heatsink

**PC Health Monitoring**
- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOLT, AMI UEFI

**BIOS**
- AMI UEFI

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## X13 SAN-H-WOHS

**Processor**
- 11th Generation Intel® Core™ i3-115GIRE Processor; up to 12/15/28W TDP

**Chipset**
- System on Chip (SoC)

**Memory Capacity & Slots**
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots

**Expansion Slots**
- 3 M.2 slots: B-Key, M-Key, E-Key

**Onboard RAID Controller**
- N/A

**Onboard LAN**
- Dual LAN with Intel® Ethernet Controller I225-IT

**Onboard VGA**
- 2 HDMI ports, 2 DP (Type-C Alt mode) ports

**USB Ports**
- 4 US 2.0 ports (4 via headers)
- 4 USB 3.2 Gen2 ports (2 Rear Type A + 1 Rear Type C)

**Other Onboard I/O Devices**
- 1 USB3.0 port (1 via box header)

**Manageability**
- SuperDoctor® 5, Watchdog, vPro, AMT, SuperDoctor® 5, Watchdog
- -WOHS: w/o Heatsink

**PC Health Monitoring**
- 8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOLT, AMI UEFI

**BIOS**
- AMI UEFI
**NEW! X12 UP Embedded**

3rd Gen Intel® Xeon® Scalable processors Supported

### MODEL

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<th>X12SCV-LVDS</th>
<th>X12SCV-W</th>
<th>X12SPZ-LN4F</th>
<th>X12SPZ-SPLNF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 Processors, Single Socket LGA-1200 (Socket H), supported, CPU TDP supports up to 125W TDP</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 Processors, Single Socket LGA-1200 (Socket H), supported, CPU TDP supports up to 65W TDP</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 Processors, Single Socket LGA-1200 (Socket H), supported, CPU TDP supports up to 65W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P), supported, CPU TDP supports up to 275W TPD</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P), supported, CPU TDP supports up to 275W TPD</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® Q470E microATX, 9.6 x 9.6 (24.38cm x 24.38cm)</td>
<td>4GB DDR4 ECC non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Intel® W480E Mini-ITX, 6.7 x 6.7 (17.02cm x 17.02cm)</td>
<td>Intel® C621A Micro-ATX, 9.6 x 9.6 (24.38cm x 24.38cm)</td>
<td>Intel® C621A Micro-ATX, 9.6 x 9.6 (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 Processors, Single Socket LGA-1200 (Socket H), supported, CPU TDP supports up to 65W TDP</td>
<td>4GB DDR4 ECC non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 Processors, Single Socket LGA-1200 (Socket H), supported, CPU TDP supports up to 65W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P), supported, CPU TDP supports up to 275W TPD</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P), supported, CPU TDP supports up to 275W TPD</td>
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<tr>
<td>Memory Capacity</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 Processors, Single Socket LGA-1200 (Socket H), supported, CPU TDP supports up to 65W TDP</td>
<td>4GB DDR4 ECC non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 Processors, Single Socket LGA-1200 (Socket H), supported, CPU TDP supports up to 65W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P), supported, CPU TDP supports up to 275W TPD</td>
<td>3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket P), supported, CPU TDP supports up to 275W TPD</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® Q470E controller for 6 RAID 0,1,5,10</td>
<td>Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1</td>
<td>Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 6 SATA3 (6 Gbps) ports; 6 SATA ports via OCuLink; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 6 SATA3 (6 Gbps) ports; 6 SATA ports via OCuLink; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, 1 HDMI port, 1 DP (DisplayPort) port</td>
<td>Intel® W480E controller for 2 SATA3 (6 Gbps) ports</td>
<td>Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 6 SATA3 (6 Gbps) ports; 6 SATA ports via OCuLink; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 6 SATA3 (6 Gbps) ports; 6 SATA ports via OCuLink; RAID 0,1,5,10</td>
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<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>ALC885 HD Audio</td>
<td>ALC885 HD Audio</td>
<td>ALC885 HD Audio</td>
<td>ALC885 HD Audio</td>
<td>ALC885 HD Audio</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, -3.3V; +12V, -12V; +5V, -5V</td>
<td>+1.8V, -3.3V; +12V, -12V; +5V, -5V</td>
<td>+1.8V, -3.3V; +12V, -12V; +5V, -5V</td>
<td>+1.8V, -3.3V; +12V, -12V; +5V, -5V</td>
<td>+1.8V, -3.3V; +12V, -12V; +5V, -5V</td>
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<td>Other Features</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>

*Image 121x579 to 191x651*
### X12 UP Embedded

**NEW!**

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<th>MODEL</th>
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<tr>
<td>X12SCZ-TLN4F</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Intel® Xeon® W-1200 Processors</td>
<td>Intel® W480E</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>S10FT-203B</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x4 (in x8 slot), 1 PCI-E 3.0 x4, 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2280/22110 1 M.2 E-Key CNV/PCI-E 3.0 x1, 2230</td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports: RAID 0,1,5,10</td>
<td>6 USB 2.0 ports (6 via headers)</td>
<td>ALC 8885 HD Audio</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
</tr>
<tr>
<td>X12SCZ-QF</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Intel® Xeon® W-1200 Processors</td>
<td>Intel® Q470E</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>S10FT-203B</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x4 (in x8 slot), 1 PCI-E 3.0 x4, 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2280/22110 1 M.2 E-Key CNV/PCI-E 3.0 x1, 2230</td>
<td>Intel® Q470E controller for 4 SATA3 (6 Gbps) ports: RAID 0,1,5,10</td>
<td>6 USB 2.0 ports (6 via headers)</td>
<td>ALC 8885 HD Audio</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
</tr>
<tr>
<td>X12SCZ-F</td>
<td>10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Intel® Xeon® W-1200 Processors</td>
<td>Intel® W480E</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>S10FT-203B</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x4 (in x8 slot), 1 PCI-E 3.0 x4, 1 M.2 M-Key SATA/PCI-E 3.0 x4, 2280/22110 1 M.2 E-Key CNV/PCI-E 3.0 x1, 2230</td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports: RAID 0,1,5,10</td>
<td>6 USB 2.0 ports (6 via headers)</td>
<td>ALC 8885 HD Audio</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
</tr>
</tbody>
</table>
X11 UP Serverboard

Most Popular
Entry-Class

**For integration into SuperServer® systems only, not available for sale as subsystems.**

### X11SCF

**Model**: X11SCL-F

**Processor**: 8th/9th Generation Intel® Core™ i3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor

**Chipset**: Intel® C242

**Form Factor**: 24.38cm x 24.38cm

**Memory Capacity & Slots**:

- Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- 1 PCI-E 3.0 x16 (in x16 slot), 2 PCI-E 3.0 x4 (in x8 slot)

**Onboard VGA**: 1 VGA port

**USB Ports**: 6 USB 2.0 ports (2 rear + 4 via headers)

**Other Onboard I/O Devices**: TPM 2.0 Header

**Thermal Control**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL

**BIOS**: UEFI 256Mb

**Other Features**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL

### X11SCL-IF

**Model**: X11SCL-IF

**Processor**: 8th/9th Generation Intel® Core™ i3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor

**Chipset**: Intel® C242

**Form Factor**: 24.38cm x 24.38cm

**Memory Capacity & Slots**:

- Up to 64GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 2 DIMM slots
- 1 PCI-E 3.0 x16 (in x16 slot), 2 PCI-E 3.0 x4 (in x8 slot)

**Onboard VGA**: 1 VGA port

**USB Ports**: 4 USB 2.0 ports (2 rear + 2 via headers)

**Other Onboard I/O Devices**: TPM 2.0 Header

**Thermal Control**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL

**BIOS**: UEFI 256Mb

**Other Features**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL

### X11SCL-LN4F

**Model**: X11SCL-LN4F

**Processor**: 8th/9th Generation Intel® Core™ i3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor

**Chipset**: Intel® C242

**Form Factor**: 24.38cm x 24.38cm

**Memory Capacity & Slots**:

- Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- 1 PCI-E 3.0 x16, 2 PCI-E 3.0 x4 and 1 PCI-E 3.0 x4

**Onboard VGA**: 1 VGA port

**USB Ports**: 6 USB 2.0 ports (2 rear + 4 via headers)

**Other Onboard I/O Devices**: TPM 2.0 Header

**Thermal Control**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL

**BIOS**: UEFI 256Mb

**Other Features**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL

### X11SCW-F

**Model**: X11SCL-WF

**Processor**: 8th/9th Generation Intel® Core™ i3/ Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor

**Chipset**: Intel® C246

**Form Factor**: 20.33cm x 30.33cm

**Memory Capacity & Slots**:

- Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- 1 PCI-E 3.0 x16

**Onboard VGA**: 1 VGA port

**USB Ports**: 4 USB 2.0 ports (2 rear + 2 via headers)

**Other Onboard I/O Devices**: TPM 2.0 Header

**Thermal Control**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL

**BIOS**: UEFI 256Mb

**Other Features**: ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL

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*For detailed memory configurations please refer to Supermicro website.*

**For integration into SuperServer® systems only, not available for sale as subsystems.**
## X11 UP Serverboards

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<th>MODEL</th>
<th>X11SCH-F</th>
<th>X11SCH-LN4F</th>
<th>X11SCM-F</th>
<th>X11SCM-LN8F</th>
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<tbody>
<tr>
<td>Chipset</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
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<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 23.48cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 23.48cm)</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB DDR4 ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB DDR4 ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x8</td>
<td>1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x8</td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x16</td>
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<tr>
<td>M.2 Interface</td>
<td>M.2 Form Factor: 2280, 22110 Double Height Connector</td>
<td>M.2 Form Factor: 2280, 22110 Double Height Connector</td>
<td>M.2 Form Factor: 2280, 22110 Double Height Connector</td>
<td>M.2 Form Factor: 2280, 22110 Double Height Connector</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10</td>
<td>Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10</td>
<td>Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6x USB 2.0 ports (2 rear, 4 via headers); 2x USB 3.1 Gen1 ports (3 via headers)</td>
<td>6x USB 2.0 ports (2 rear, 4 via headers); 2x USB 3.1 Gen1 ports (3 via headers)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers)</td>
<td>4 USB 2.0 ports (2 rear + 2 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM 2.0 Header 2 COM Ports (1 rear, 1 header)</td>
<td>TPM 2.0 Header 2 COM Ports (1 rear, 1 header)</td>
<td>TPM 2.0 Header 1 COM Port (1 header)</td>
<td>TPM 2.0 Header 1 COM Port (1 header)</td>
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<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor* 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor* 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor* 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor* 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, +5V standby, +6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, +5V standby, +6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, +5V standby, +6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, +5V standby, +6-fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
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</tbody>
</table>

*For detailed memory configurations please refer to Supermicro website.

** For integration into SuperServer® systems only, not available for sale as subsystems.
# X11 UP Serverboards

## Model | X11SCA | X11SCA-F | X11SCA-W
--- | --- | --- | ---
**Processor** | 8th/9th Generation Intel® Core™ i9/i7/i5 Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP | 8th/9th Generation Intel® Core™ i9/i7/i5 Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP | 8th/9th Generation Intel® Core™ i9/i7/i5 Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP
**Chipset** | Intel® C246 | Intel® C246 | Intel® C246
**Form Factor** | ATX, 12" x 9.6" (30.48cm x 24.38cm) | ATX, 12" x 9.6" (30.48cm x 24.38cm) | ATX, 12" x 9.6" (30.48cm x 24.38cm)
**Memory** | Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots | Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots | Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
**Expansion Slots** | 1 - 3V PCI 32bit M.2 Key: M-Key M.2 Key: M-Key M.2 Key: M-Key | 1 - 3V PCI 32bit M.2 Key: M-Key M.2 Key: M-Key M.2 Key: M-Key | 1 - 3V PCI 32bit M.2 Key: M-Key M.2 Key: M-Key M.2 Key: M-Key
**Onboard RAID Controller** | Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 | Single LAN with Intel® Ethernet Controller I210-AT Single LAN with Intel® PHY I219LM LAN controller Single LAN with Intel® PHY I219LM LAN controller | Single LAN with Intel® Ethernet Controller I210-AT Single LAN with Intel® PHY I219LM LAN controller Single LAN with Intel® PHY I219LM LAN controller
**USB Ports** | 2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A) | 2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A) | 2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A) | 2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A) | 2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A) | 2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A)

- **Other Onboard I/O Devices**: TPM 2.0 Header 1 COM Port (1 header)
- **USB Ports**: 2 USB 2.0 ports (2 via headers) 4 USB 3.1 Gen1 ports (2 Rears Type A, 2 via headers) 4 USB 3.1 Gen2 ports (1 Rear Type A + 1 Rear Type C, 1 via header, 1 Type A)
- **Other Features**: 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL
- **BIOS**: UEFI 128Mb

*For detailed memory configurations please refer to Supermicro website.

**For integration into SuperServer systems only, not available for sale as subsystems.
# X11 UP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SRM-F</th>
<th>X11SRM-VF</th>
<th>X11SRL-F</th>
<th>X11SRi-IF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP</td>
<td>Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP</td>
<td>Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP</td>
<td>Intel® Xeon® W-2100 Processors, Intel® Xeon® W-2200 Processors Single Socket LGA-2066 (Socket R4) supported, CPU TDP supports up to 165W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C422</td>
<td>Intel® C422</td>
<td>Intel® C422</td>
<td>Intel® C422</td>
</tr>
<tr>
<td>Form Factor</td>
<td>microATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>microATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 24.38cm)</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>SC813MFTQC-R407CB, 1U Heatsink: SNK-P0057PS</td>
<td>SC813MFTQC-R407CB, 1U Heatsink: SNK-P0057PS</td>
<td>SC825TQC</td>
<td>SC825TQC</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz; up to 512GB EER LRDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC RDIMM, DDR4-2933MHz; up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC RDIMM, DDR4-2933MHz; up to 1TB Registered ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x8, M.2 Interface: 1 PCI-E 3.0 x4, M.2 Form Factor: 2280 M.2 Key: M-Key, Double Height Connector</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x8, 4 PCI-E 3.0 x16 Internal Port(s), M.2 Interface: 1 PCI-E 3.0 x4, M.2 Form Factor: 2280 M.2 Key: M-Key, Double Height Connector</td>
<td>1 PCI-E 3.0 x8, 1 PCI-E 3.0 x16, 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot), M.2 Interface: 1 PCI-E 3.0 x4, M.2 Form Factor: 2280 M.2 Key: M-Key, Double Height Connector</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 NVMe x4 Internal Port(s)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>2 USB 3.2 Gen1 ports (2 rear)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 3-pin status, 3.3V standby, Chassis intrusion header, HT, Monitors CPU voltages, System voltage, System temperature, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Features</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.  
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SPI-TF</th>
<th>X11SPM-F</th>
<th>X11SPW-TF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C622</td>
<td>Intel® C622</td>
<td>Intel® C622</td>
</tr>
<tr>
<td>Form Factor</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>SC813MFTQC-35CC</td>
<td>SC813MFTQC-35CC</td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Memory Capacity</td>
<td>Up to 2TB 3D ECC RDIMM, DDR4-2933MHz; up to 2TB 3D ECC RDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
<td>Up to 1.5TB 3D ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3D ECC RDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
<td>Up to 1.5TB 3D ECC RDIMM, DDR4-2933MHz, up to 1.5TB 3D ECC RDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C622 controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 1GbE with Intel® X722 + Marvell 88E1512</td>
<td>Dual LAN with 10GbE-T with Intel® X722 + X557</td>
<td>Dual LAN with 10GbE with Intel® X722 + X557</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM, TPM Header, 2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, Supports system management utility, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>MODEL</td>
<td>X11SPH-nCTF</td>
<td>X11SPH-nCTPF</td>
<td>X11SLP-F</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>--------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.</td>
</tr>
<tr>
<td>Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP.</td>
<td>Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP.</td>
<td>Single Socket P (LGA 3647) supported, CPU TDP support up to 165W TDP.</td>
<td>Single Socket P (LGA 3647) supported, CPU TDP support up to 205W TDP.</td>
</tr>
<tr>
<td>Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).</td>
<td>Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).</td>
<td>Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).</td>
<td>Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R).</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C622</td>
<td>Intel® C622</td>
<td>Intel® C621</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 24.38cm)</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 24.38cm)</td>
<td>ATX, 12&quot; x 9.6&quot; (30.48cm x 24.38cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; up to 2TB 3DS ECC RDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; up to 2TB 3DS ECC RDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
<td>Up to 1TB Intel® Optane DC Persistent Memory in memory mode (Cascade Lake Only)††</td>
</tr>
<tr>
<td>1 PCI-E 3.0 x16 (x16 or x8), 1 PCI-E 3.0 x16 (x8 or x4), 1 PCI-E 3.0 x8 (x8 or x4), 1 PCI-E 3.0 x8 (x8 or x4), 1 PCI-E 3.0 x4 (x4 or x8), 2 PCI-E 3.0 x4 (x4 or x8) and SATA</td>
<td>1 PCI-E 3.0 x16 (x16 or x8), 1 PCI-E 3.0 x16 (x8 or x4), 1 PCI-E 3.0 x8 (x8 or x4), 1 PCI-E 3.0 x8 (x8 or x4), 1 PCI-E 3.0 x4 (x4 or x8), 2 PCI-E 3.0 x4 (x4 or x8) and SATA</td>
<td>1 PCI-E 3.0 x16 (x16 or x8), 1 PCI-E 3.0 x16 (x8 or x4), 1 PCI-E 3.0 x8 (x8 or x4), 1 PCI-E 3.0 x8 (x8 or x4), 1 PCI-E 3.0 x4 (x4 or x8), 2 PCI-E 3.0 x4 (x4 or x8) and SATA</td>
<td>1 PCI-E 3.0 x16 Center Right Hand Slot, 1 PCI-E 3.0 x16 Left Riser Slot, 1 PCI-E 3.0 x16 Right Riser Slot</td>
</tr>
<tr>
<td><strong>Expansions Slots</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.2 Form Factor: 2280</td>
<td>M.2 Form Factor: 2280</td>
<td>M.2 Form Factor: 2280</td>
<td>M.2 Form Factor: 2280</td>
</tr>
<tr>
<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
</tr>
<tr>
<td>Double Height Connector Intel® C622 controller for 10 SATA3 (6 Gbps ports); RAID 0,1,5,10</td>
<td>Double Height Connector Intel® C622 controller for 10 SATA3 (6 Gbps ports); RAID 0,1,5,10</td>
<td>Double Height Connector Intel® C621 controller for 8 SATA3 (6 Gbps ports); RAID 0,1,5,10</td>
<td>Double Height Connector Intel® C621 controller for 8 SATA3 (6 Gbps ports); RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C622</td>
<td>Intel® C622</td>
<td>Intel® C621</td>
</tr>
<tr>
<td>Dual LAN with 10GbBase-T with Intel® X522 + Inphi CX2277</td>
<td>Dual LAN with 10GbE with Intel® X210</td>
<td>Dual LAN with 10GbE with Intel® X210</td>
<td>Dual LAN with 10GbE with Intel® X210</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, ASPEED AST5250 BMC</td>
<td>1 VGA port, ASPEED AST5250 BMC</td>
<td>1 VGA port, ASPEED AST5250 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>8 USB 2.0 ports (2 rear + 6 via headers)</td>
<td>8 USB 2.0 ports (2 rear + 6 via headers)</td>
<td>8 USB 2.0 ports (2 rear + 6 via headers)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM Header</td>
<td>TPM Header</td>
<td>TPM Header</td>
</tr>
<tr>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>1 COM Port (1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>8x 4-pin fan headers (up to 8 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control</td>
<td>8x 4-pin fan headers (up to 8 fans), Dual Cooling Zone, Overheat LED indication, PWM fan speed control, System level control</td>
<td>7x 4-pin fan headers (up to 7 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, RoHS, UID, WOL</td>
<td>ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, UID, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

* For detailed memory configurations please refer to Supermicro website.
† For 2nd Generation Intel® Xeon Scalable processors (Cascade Lake-SP Refresh / Cascade Lake-SP) only. Contact your Supermicro sales rep for more info.
†† For 2nd Generation Intel® Xeon Scalable processors (codenamed Cascade Lake-R).
## X11 UP Serverboards

![X11 UP Serverboards](image)

**MODEL**

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Chipset</th>
<th>Optimized Chassis</th>
<th>Form Factor</th>
<th>Memory Capacity &amp; Slots*</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Thermal Control</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SSW-TF</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.</td>
<td>Intel® C236</td>
<td>SC815TQC-R504WB, SC815TPC-R500WB, SC815TPC-605WB, SC116AC2-R706WB, SC113TQ-600WB, SCS14-R400W, SCS14-505</td>
<td>Proprietary, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16 Left Riser Slot, M.2 Interface: PCI-E 3.0 x4, M.2 Form Factor: 2260, 2280, 22110, M.2 Key: M-Key Double Height Connector</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Quad LAN with Intel® X540 10GBase-T Ethernet Controller</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT 6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, VHD, WOL</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td></td>
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<tr>
<td>X11SSW-4TF</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.</td>
<td>Intel® C236</td>
<td>SC815TQC-R504WB, SC815TPC-R500WB, SC815TPC-605WB, SC116AC2-R706WB, SC113TQ-600WB, SCS14-R400W, SCS14-505</td>
<td>Proprietary, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16 Left Riser Slot, M.2 Interface: PCI-E 3.0 x4, M.2 Form Factor: 2260, 2280, 22110, M.2 Key: M-Key Double Height Connector</td>
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<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT 6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, VHD, WOL</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
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<tr>
<td>X11SSW-F</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.</td>
<td>Intel® C236</td>
<td>SCS116AC2-R706WB, SCS113TQ-600WB, SCS14-R400W, SCS14-505</td>
<td>Proprietary, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x16 Left Riser Slot, M.2 Interface: PCI-E 3.0 x4 and SATA M.2 Form Factor: 2260, 2280, 22110, M.2 Key: M-Key Double Height Connector</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT 6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, WOL</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td></td>
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</tbody>
</table>

* Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
## X11 UP Serverboards

### Entry Server Cost Optimized

**Model**: X11SSL

- **Processor**: Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **Memory Capacity & Slots**: 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, Aspeed AST1400
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 headers), 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)
- **Other Onboard I/O Devices**: 2 ports SuperDOM, TPM Header, 1 COM Port (1 rear)
- **Manageability**: NMI, SSIM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors
- **BIOS**: 128Mb SPI Flash EEPROM with AMI BIOS

### Entry Server Cost Optimized

**Model**: X11SSL-F

- **Processor**: Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **Memory Capacity & Slots**: 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, Aspeed AST1400
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 headers), 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)
- **Other Onboard I/O Devices**: 2 ports SuperDOM, TPM Header, 1 COM Port (1 rear)
- **Manageability**: NMI, SSIM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors
- **BIOS**: 128Mb SPI Flash EEPROM with AMI BIOS

### Storage Optimized w/ 8 SAS3 Ports

**Model**: X11SSL-CF

- **Processor**: Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **Memory Capacity & Slots**: 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, Aspeed AST1400
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 headers), 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)
- **Other Onboard I/O Devices**: 2 ports SuperDOM, TPM Header, 1 COM Port (1 rear)
- **Manageability**: NMI, SSIM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors
- **BIOS**: 128Mb SPI Flash EEPROM with AMI BIOS

### Onboard 2x NVMe Ports

**Model**: X11SSL-nF

- **Processor**: Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5.
- **Chipset**: Intel® C232
- **Form Factor**: Micro-ATX, 9.6" x 9.6" (24.38cm x 24.38cm)
- **Memory Capacity & Slots**: 64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8 (in x16 slot), 1 PCI-E 3.0 x4 (in x8 slot)
- **Onboard RAID Controller**: Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, Aspeed AST1400
- **USB Ports**: 6 USB 2.0 ports (2 rear + 4 headers), 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)
- **Other Onboard I/O Devices**: 2 ports SuperDOM, TPM Header, 1 COM Port (1 rear)
- **Manageability**: NMI, SSIM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT
- **Thermal Control**: 5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors
- **BIOS**: 128Mb SPI Flash EEPROM with AMI BIOS

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*Supermicro chassis required for optimal functionality and performance.
*For detailed memory configurations please refer to Supermicro website.
## X11 UP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSH-CTF</th>
<th>X11SSH-TF</th>
<th>X11SSH-F</th>
<th>X11SSH-LN4F</th>
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<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
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<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
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<tr>
<td>Memory</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Capacity &amp; Slots*</td>
<td>1 PCI-E 1.x, 1 PCI-E 2.x (in x4 slot)</td>
<td>1 PCI-E 1.x, 1 PCI-E 2.x (in x4 slot)</td>
<td>1 PCI-E 1.x, 1 PCI-E 2.x (in x4 slot)</td>
<td>1 PCI-E 1.x, 1 PCI-E 2.x (in x4 slot)</td>
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<tr>
<td>Expansion Slots</td>
<td>M.2 Interface: SATA and PCI-E 3.0 x4, M.2 Form Factor: M.2, M.2 Key: M-Key, Double Height Connector</td>
<td>M.2 Interface: SATA and PCI-E 3.0 x4, M.2 Form Factor: M.2, M.2 Key: M-Key, Double Height Connector</td>
<td>M.2 Interface: SATA and PCI-E 3.0 x4, M.2 Form Factor: M.2, M.2 Key: M-Key, Double Height Connector</td>
<td>M.2 Interface: SATA and PCI-E 3.0 x4, M.2 Form Factor: M.2, M.2 Key: M-Key, Double Height Connector</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>Quad LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
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<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
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<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>2 ports SuperDOM TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM TPM Header, 2 COM Ports (1 rear, 1 header)</td>
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<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, Chassis intrusion header, Monitors, Node Manager Support, WOL</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, Chassis intrusion header, Monitors, Node Manager Support, WOL</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, Chassis intrusion header, Monitors, Node Manager Support, WOL</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, Chassis intrusion header, Monitors, Node Manager Support, WOL</td>
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<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors, System level control, VBAT</td>
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<tr>
<td>Thermal Control</td>
<td>6x4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>6x4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
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<td>6x4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
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<tr>
<td>BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
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</table>

* Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
## X11 UP Serverboards

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<th>Model</th>
<th>X11SSM</th>
<th>X11SSM-F</th>
<th>X11SSI-LN4F</th>
<th>X11SSA-F</th>
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<td>Processor</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
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<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
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<td>Form Factor</td>
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<td>Memory Capacity &amp; Slots</td>
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<td>Onboard RAID</td>
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<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Quad LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
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<td>Onboard VGA</td>
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<td>1 VGA port, Aspeed AST2400 BMC</td>
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<td>Other Features</td>
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<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, WOL</td>
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<td>X11SWN-H</td>
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<td>Intel® Core™ i3-8400T Processor up to 15W TDP</td>
<td>Intel® Core™ i3-8145U Processor up to 15W TDP</td>
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<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
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<tr>
<td><strong>Optimized</strong></td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SODIMM, DDR4-2133MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Capacity &amp; Slots</strong></td>
<td>M.2 Key: B-Key, M-Key, E-Key (USB3.0/2.0 x 1, 1x SATA Gen3 x 1) with M.2 SIM holder</td>
<td>M.2 Key: B-Key, M-Key, E-Key (USB3.0/2.0 x 1, 1x SATA Gen3 x 1) with M.2 SIM holder</td>
<td>M.2 Key: B-Key, M-Key, E-Key (USB3.0/2.0 x 1, 1x SATA Gen3 x 1) with M.2 SIM holder</td>
<td>M.2 Key: B-Key, M-Key, E-Key (USB3.0/2.0 x 1, 1x SATA Gen3 x 1) with M.2 SIM holder</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>X11SWN-C-WOHS</td>
<td>X11SWN-E-WOHS</td>
<td>X11SWN-H-WOHS</td>
<td>X11SWN-L-WOHS</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Single LAN with Intel® i210IT</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>1 DP+(Dual-Mode DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 1.4 (max. resolution up to 4096x2160@30Hz), DP++ (max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics 610</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.1 Gen2 ports (4 Rears Type A) ALC 8885 HD Audio</td>
<td>1 DP+(Dual-Mode DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 1.4 (max. resolution up to 4096x2160@30Hz), DP++ (max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics 610</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>TPA 2.0 Chip</td>
<td>TPA 2.0 Chip</td>
<td>TPA 2.0 Chip</td>
<td>TPA 2.0 Chip</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1x HDMI audio header Mic-in/Headphone-out (Audio only support at 0-60°C)</td>
<td>1x HDMI audio header Mic-in/Headphone-out (Audio only support at 0-60°C)</td>
<td>1x HDMI audio header Mic-in/Headphone-out (Audio only support at 0-60°C)</td>
<td>1x HDMI audio header Mic-in/Headphone-out (Audio only support at 0-60°C)</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>15W TDP</td>
<td>15W TDP</td>
<td>15W TDP</td>
<td>15W TDP</td>
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*Supermicro chassis required for optimal functionality and performance.

*For detailed memory configurations please refer to Supermicro website.
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<table>
<thead>
<tr>
<th>MODEL</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
<th>Memory Capacity &amp; Slots*</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Thermal Control</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11SDW-4C-TP13F+</td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 60W TDP</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>513BTQC-350WB</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x32 Left Riser Slot</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KWM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>UEFI 256Mb</td>
<td></td>
</tr>
<tr>
<td>X11SDW-16C-TP13F+</td>
<td>Intel® Xeon® Processor D-2183IT</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 100W TDP</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>513BTQC-350WB</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x32 Left Riser Slot</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KWM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>UEFI 256Mb</td>
<td></td>
</tr>
<tr>
<td>X11SDW-14CN-TP13F+</td>
<td>Intel® Xeon® Processor D-2177NT</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports 105W TDP</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>513BTQC-350WB</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x32 Left Riser Slot</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KWM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>UEFI 256Mb</td>
<td></td>
</tr>
</tbody>
</table>

* Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### Embedded/IoT Building Block Solutions - September 2022

#### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDW-4C-TP13F</th>
<th>X11SDW-8C-TP13F</th>
<th>X11SDW-12C-TP13F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2164NT</td>
<td>Intel® Xeon® Processor D-2163IT</td>
</tr>
<tr>
<td></td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 60W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 80W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 75W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8” x 9.6” (20.32cm x 24.38cm)</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
</tr>
<tr>
<td><strong>Optimized Server</strong></td>
<td>SYS-E033-9D-4C-FN13TP</td>
<td>SYS-1019D-FHN13TP</td>
<td>SYS-E0403-9D-12C-FN13TP</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM LRDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
<td>1 PCI-E 3.0 x2 Left Riser Slot</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 10G SFP+ LAN via SoC</td>
<td>Dual LAN with 10Gbase-T</td>
<td>Dual LAN with 10GbE with Intel® I350-AM4</td>
</tr>
<tr>
<td></td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Single LAN with 1GBd with Intel® X210</td>
<td>Single LAN with 1GBd with Intel® X210</td>
</tr>
<tr>
<td></td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4</td>
<td>Single LAN with 1GBd with Intel® X210</td>
<td>Single LAN with 1GBd with Intel® X210</td>
</tr>
<tr>
<td></td>
<td>Single LAN with Realtek RTL8211E PHY (dedicated IPMI)</td>
<td>Single LAN with Realtek RT3201N PHY (dedicated IPMI)</td>
<td>Single LAN with Realtek RTL8201N PHY (dedicated IPMI)</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Header Only, Power Only, Power Only, Power Only</td>
<td>1 VGA port, Header Only, Power Only, Power Only, Power Only</td>
<td>1 VGA port, Header Only, Power Only, Power Only, Power Only</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td></td>
<td>2 USB 3.1 Gen1 ports (2 Rears Type A)</td>
<td>2 USB 3.1 Gen1 ports (2 Rears Type A)</td>
<td>2 USB 3.1 Gen1 ports (2 Rears Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>TPM 2.0 Header &amp; Chip both</td>
</tr>
<tr>
<td></td>
<td>2 COM Ports (1 rear, 1 header) for:</td>
<td>2 COM Ports (1 rear, 1 header) for:</td>
<td>2 COM Ports (1 rear, 1 header) for:</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
</tbody>
</table>

**BIOS**

- **UEFI 256Mb**

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1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
### Processor
- **Intel® Xeon® Processor D-2177NT**
- **Intel® Xeon® Processor D-2173IT**
- **Intel® Xeon® Processor D-2183IT**

### Chipset
- System on Chip
- System on Chip
- System on Chip

### Form Factor
- Proprietary WIO, 8" x 10" (20.32cm x 24.5cm)
- Proprietary WIO, 8" x 9.6" (20.32cm x 24.38cm)
- Proprietary WIO, 8" x 10" (20.32cm x 24.5cm)

### Optimized Server
- **SYS-E403-9D-14C-FNH13TP**
- **SYS-1019D-14CN-FHN13TP**
- **SYS-1019D-16CN-FHN13TP**

### Memory Capacity & Slots
- Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, up to 1TB DDR4-2133MHz, in 4 DIMM slots
- Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, up to 1TB DDR4-2133MHz, in 4 DIMM slots
- Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, up to 1TB DDR4-2133MHz, in 4 DIMM slots

### Onboard RAID Controller
- SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10
- SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10
- SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10

### Onboard LAN
- Quad LAN with Intel® Ethernet Controller I350-AM4
- Quad LAN with Intel® Ethernet Controller I350-AM4
- Quad LAN with Intel® Ethernet Controller I350-AM4

### USB Ports
- 4 USB 2.0 ports (4 via headers)
- 4 USB 2.0 ports (4 via headers)
- 4 USB 2.0 ports (4 via headers)

### Other Onboard I/O Devices
- TPM 2.0 Header & Chip both
- TPM 2.0 Header & Chip both
- TPM 2.0 Header & Chip both

### Manageability
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NIC, SUM, SuperDoctor®, 5, Watchdog
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NIC, SUM, SuperDoctor®, 5, Watchdog
- Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NIC, SUM, SuperDoctor®, 5, Watchdog

### PC Health Monitoring
- +1.5V, +12V, +3.3V, +5V, +5V standby, 6-pin status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature
- +1.5V, +12V, +3.3V, +5V, +5V standby, 6-pin status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature
- +1.5V, +12V, +3.3V, +5V, +5V standby, 6-pin status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature

### BIOS
- UEFI 256Mb
- UEFI 256Mb
- UEFI 256Mb

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**Notes:**
- "Supermicro chassis required for optimal functionality and performance.
- For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SCV-Q</th>
<th>X11SCV-L</th>
<th>X11SDV-16C+TQN2F</th>
<th>X11SDV-8C+TQN2F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>8th Generation Intel® Core™</td>
<td>8th Generation Intel® Core™</td>
<td>Intel® Xeon® Processor D-2183IT</td>
<td>Intel® Xeon® Processor D-2141L</td>
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<tr>
<td></td>
<td>17/15/13/Pentium®/Celeron®</td>
<td>17/15/13/Pentium®/Celeron®</td>
<td>CPU TDP support up to 100W TDP</td>
<td>CPU TDP support up to 65W TDP</td>
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<tr>
<td></td>
<td>Single Socket H4 (LGA 1151)</td>
<td>Single Socket H4 (LGA 1151)</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>Chipset</td>
<td>Intel® Q370</td>
<td>Intel® Q370</td>
<td>Mini-ITX, 6.75” x 6.75”</td>
<td>Mini-ITX, 6.75” x 6.75”</td>
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<td>Form Factor</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
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<td>Optimized</td>
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<td>Yes</td>
<td>SC3300</td>
<td>SC721TT-250B</td>
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<tr>
<td>Chassis</td>
<td>SC721TT-250B</td>
<td>SC721TT-250B</td>
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<td></td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 32GB Unbuffered</td>
<td>Up to 32GB Unbuffered</td>
<td>Up to 256GB Registered ECC</td>
<td>Up to 256GB Registered ECC</td>
</tr>
<tr>
<td></td>
<td>non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots</td>
<td>non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots</td>
<td>DDR4-2400 MHz; up to 512GB ECC</td>
<td>DDR4-2400 MHz; up to 512GB ECC</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E x16</td>
<td>1 PCI-E x16</td>
<td>1 PCI-E x3.0 x8</td>
<td>1 PCI-E x3.0 x8</td>
</tr>
<tr>
<td></td>
<td>1 M.2 Key-E Key-E Key-CNV/PCI-E x1, 2242/2280</td>
<td>1 M.2 E-Key CNV/PCI-E x1, 2230</td>
<td>1 M.2 PCIe x2.0 x1, 2120</td>
<td>1 M.2 PCIe x1.5 x1, 2120</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® Q370 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports; Only I-SATA0 I-SATA3</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
</tr>
<tr>
<td></td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
<td>1 VGA port, Aspeed AST2750 BMC</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 DVI-D port, 1 HDMI port, 1 DP</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>1 VGA port, Aspeed AST2750 BMC</td>
<td>1 VGA port, Aspeed AST2750 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>1 DP (DisplayPort) port, 1 eDP</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
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<tr>
<td>Other Onboard Devices</td>
<td>4 USB 3.1 ports (2 rear, 4 headers); 4COM port</td>
<td>2 USB 3.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 3.0 ports (2 rear)</td>
</tr>
<tr>
<td></td>
<td>6 USB 3.1 ports (4 rear) (2 Type A + 2 Type C) + 2 headers; USB 3.1 Gen 2</td>
<td>4 USB 3.1 ports (2 rear) (2 Type A + 2 Type C) + 2 headers</td>
<td>6 USB 2.0 ports (2 headers, Type A)</td>
<td>4 USB 2.0 ports (2 headers, Type A)</td>
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<td>4 USB 2.0 ports (4 headers, Type A)</td>
<td>4 USB 3.1 Gen 2</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
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<tr>
<td></td>
<td>ALC 8885 HD Audio</td>
<td>ALC 8885 HD Audio</td>
<td>ALC 8885 HD Audio</td>
<td>ALC 8885 HD Audio</td>
</tr>
<tr>
<td></td>
<td>TPM 2.0 Header &amp; Chip both</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
</tr>
<tr>
<td>Manageability</td>
<td>AMT, NMI, SuperDoctor® 5, vPro,</td>
<td>NMI, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSD, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSD, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +3.3V, +5V, +5V standby, 3 -fan status, HT, System level control, System temperature, VBAT</td>
<td>+1.8V, +3.3V, +5V, +5V standby, 3 -fan status, HT, System level control, System temperature, VBAT</td>
<td>+1.8V, +3.3V, +5V, +5V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>+1.8V, +3.3V, +5V, +5V, +5V, +5V, +5V, +5V, +5V, +5V, +5V, +5V (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Fan speed control, Low noise fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Pulse Width Modulated (PWM) fan connectors, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
</tr>
<tr>
<td>Other Features</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance. * For detailed memory configurations please refer to Supermicro’s website.
# Embedded/IoT Building Block Solutions - September 2022

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SCQ</th>
<th>X11SCQ-L</th>
<th>X11SCZ-Q</th>
<th>X11SCZ-F</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>8th/9th Generation Intel® Core™ i9/ Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
<td>8th/9th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 95W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® Q370</td>
<td>Intel® H310</td>
<td>Intel® Q370</td>
<td>Intel® C246</td>
</tr>
<tr>
<td>Form Factor</td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 64GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 3.0 x1, 2 PCI-E 3.0 x4, M.2 Form Factor: 2242/2280/22110 M.2 Key: M-Key</td>
<td>1 PCI-E 3.0 x16, 1 PCI-E 2.0 x4, 1 PCI-E 2.0 x1</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x4 (in x8 slot), M.2 Interface: 1 SATA/P CI-E 3.0 x4, M.2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCI-E 3.0 x16, 2 PCI-E 3.0 x4 (in x8 slot), 1 M.2 M-Key SATA/P CI-E 3.0 x4, 2280/22110</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® Q370 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports;</td>
<td>Intel® Q370 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 DVI - port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 3 Independent Displays, Intel® HD Graphics</td>
<td>1 DVI - port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 2 Independent Displays, Intel® HD Graphics</td>
<td>1 DVI - I port, 2 DP (DisplayPort) ports, 3 Independent Displays, Intel® HD Graphics</td>
<td>1 VGA D-Sub Connector port, 1 DVI - I port, 2 DP (DisplayPort) ports, 3 Independent Displays, ASPEED AST2500 BMC, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>7 USB 2.0 ports (6 via headers, 1 Type A)</td>
<td>7 USB 2.0 ports (6 via headers, 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>7.1 HD Audio TPM Header &amp; Chip both</td>
<td>7.1 HD Audio TPM Header &amp; Chip both</td>
<td>1 Port SuperDOM ALC 8885 HD Audio TPM Header &amp; Chip both</td>
<td>ALC 8885 HD Audio TPM Header &amp; Chip both</td>
</tr>
<tr>
<td>Manageability</td>
<td>AMT, NMI, SuperDoctor® 5, vPro, Watchdog</td>
<td>NMI, SuperDoctor® 5, Watchdog</td>
<td>AMT, NMI, SuperDoctor® 5, vPro, Watchdog</td>
<td>IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, 1.2V (VIDMIM), 4 fans with tachometer monitoring, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VIDMIM), 4 fans with tachometer monitoring, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VIDMIM), 3.3V standby (PCH), 1.05 (PCH)</td>
<td>+12V, +3.3V, +5V, 1.2V (VIDMIM), 3.3V standby, 1.05 (PCH), 1.2V (VIDMIM), 3.3V standby, 6-fan status, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion header, M.2 NGFF connector, RoHS, UID</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
## Embedded/IoT Building Blocks Solutions - September 2022

### X11SDV-4C-TPBF
- **Processor**: Intel® Xeon® Processor D-2133T, CPU TDP supports up to 60W TDP
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX
- **Optimized Chassis**: Mini 1U
- **Memory Capacity & Slots**: Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8, 1 PCI-E 3.0 x16, 1 Mini-Pcie-E, 2 PCI-E 3.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**: SoC controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with 10G SFP+ + LAN via SoC
- **Onboard VGA**: 1 VGA D-Sub Connector port
- **USB Ports**: 2 USB 2.0 ports (2 via headers), 2 USB 3.2 Gen 1 ports (2 rear)
- **Other Onboard I/O Devices**: TPM 2.0 Header
- **Manageability**: IPMI2.0, KVM with dedicated LAN, Watchdog
- **PC Health Monitoring**: +1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), -5V, -fan status, Monitors CPU voltages, System level control
- **Thermal Control**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- **BIOS**: UEFI 128Mb

### X11SDV-8C-TPBF
- **Processor**: Intel® Xeon® Processor D-2146NT, CPU TDP support up to 80W TDP
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX
- **Optimized Chassis**: SC505-203B
- **Memory Capacity & Slots**: Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8, 1 PCI-E 3.0 x16, 2 PCI-E 3.0 NVMe x4 Internal Ports
- **Onboard RAID Controller**: SoC controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with Intel® Ethernet Controller I350-AM4
- **Onboard VGA**: 1 VGA D-Sub Connector port, Aspeed AST2500 BMC
- **USB Ports**: 2 USB 2.0 ports (2 via headers), 2 USB 3.2 Gen 1 ports (2 rear)
- **Other Onboard I/O Devices**: TPM 2.0 Header
- **Manageability**: IPMI2.0, KVM with dedicated LAN, Watchdog
- **PC Health Monitoring**: +1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), -5V, -fan status, Monitors CPU voltages, System level control
- **Thermal Control**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- **BIOS**: UEFI 128Mb

### X11SDV-12C-TPBF
- **Processor**: Intel® Xeon® Processor D-2166NT, CPU TDP support up to 85W TDP
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX
- **Optimized Chassis**: SC12F-260
- **Memory Capacity & Slots**: Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8, 1 PCI-E 3.0 x16, 2 PCI-E 3.0 NVMe x4 Internal Ports
- **Onboard RAID Controller**: SoC controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I350-AM4
- **Onboard VGA**: 1 VGA D-Sub Connector port, Aspeed AST2500 BMC
- **USB Ports**: 2 USB 2.0 ports (2 via headers), 2 USB 3.2 Gen 1 ports (2 rear)
- **Other Onboard I/O Devices**: TPM 2.0 Header
- **Manageability**: IPMI2.0, KVM with dedicated LAN, Watchdog
- **PC Health Monitoring**: +1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), -5V, -fan status, Monitors CPU voltages, System level control
- **Thermal Control**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- **BIOS**: UEFI 128Mb

### X11SDV-16C-TPBF
- **Processor**: Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP
- **Chipset**: System on Chip
- **Form Factor**: Flex ATX
- **Optimized Chassis**: Mini 1U
- **Memory Capacity & Slots**: Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCI-E 3.0 x8, 1 PCI-E 3.0 x16, 2 PCI-E 3.0 NVMe x4 Internal Ports
- **Onboard RAID Controller**: SoC controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I350-AM4
- **Onboard VGA**: 1 VGA D-Sub Connector port, Aspeed AST2500 BMC
- **USB Ports**: 2 USB 2.0 ports (2 via headers), 2 USB 3.2 Gen 1 ports (2 rear)
- **Other Onboard I/O Devices**: TPM 2.0 Header
- **Manageability**: IPMI2.0, KVM with dedicated LAN, Watchdog
- **PC Health Monitoring**: +1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), -5V, -fan status, Monitors CPU voltages, System level control
- **Thermal Control**: 12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS
- **BIOS**: UEFI 128Mb

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* Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>Processor†</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
<th>Memory Capacity &amp; Slots*</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard LAN</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Thermal Control</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>X115DV-4C-TLN2F</td>
<td>Intel® Xeon® Processor D-2123IT, CPU TDP support up to 60W TDP</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
<td>Mini 1U: Sce300, SC504-203B, SC505-203B</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E x 3.0 x8</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports: RAID 0,1,5,10</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>TPM Header</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPIM, SSM, SUM, SuperDoctor®, Switchdog, SuperDoctor® S, Watchdog</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 x 4-pin fan headers (up to 3 fans), 3 fans with temperature monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>AMI UEFI</td>
<td></td>
</tr>
<tr>
<td>X115DV-8C-TLN2F</td>
<td>Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
<td>Mini 1U: Sce300, SC504-203B, SC505-203B</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E x 3.0 x8</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports: RAID 0,1,5,10</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>TPM Header</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPIM, SSM, SUM, SuperDoctor®, Switchdog, SuperDoctor® S, Watchdog</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 x 4-pin fan headers (up to 3 fans), 3 fans with temperature monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>AMI UEFI</td>
<td></td>
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<tr>
<td>X115DV-12C-TLN2F</td>
<td>Intel® Xeon® Processor D-2166NT, CPU TDP support up to 85W TDP</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
<td>Mini 1U: S515-R407, SC515-R407</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E x 3.0 x8</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports: RAID 0,1,5,10</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>TPM Header</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPIM, SSM, SUM, SuperDoctor®, Switchdog, SuperDoctor® S, Watchdog</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 x 4-pin fan headers (up to 3 fans), 3 fans with temperature monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>AMI UEFI</td>
<td></td>
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<tr>
<td>X115DV-16C-TLN2F</td>
<td>Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP</td>
<td>System on Chip</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
<td>Mini 1U: S515-R407, SC515-R407</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E x 3.0 x8</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports: RAID 0,1,5,10</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>TPM Header</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPIM, SSM, SUM, SuperDoctor®, Switchdog, SuperDoctor® S, Watchdog</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3 x 4-pin fan headers (up to 3 fans), 3 fans with temperature monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>AMI UEFI</td>
<td></td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
## Embedded/IoT Building Block Solutions - September 2022

### Embedded

#### Low Power

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<thead>
<tr>
<th>MODEL</th>
<th>X11SSN-H</th>
<th>X11SSN-E</th>
<th>X11SSN-L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>7th Generation Intel® Core™ i7-7600U Processor, Single Socket FCGBA1356 supported, CPU TDP support up to 15W TDP</td>
<td>7th Generation Intel® Core™ i7-7300U Processor, Single Socket FCGBA1356 supported, CPU TDP support up to 15W TDP</td>
<td>7th Generation Intel® Core™ i3-7100U Processor, Single Socket FCGBA1356 supported, CPU TDP support up to 15W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 Full size Mini-PCI-E with mSATA(USB 2.0 x1, PCI-E 3.0 x1, SATA 3.0 x1), M.2 Interface: SATA and PCI-E 3.0 x2 and USB 2.0 M.2 Form Factor: 2242, 2280, 3042 M.2 Key: B-Key M.2 2242/3042/2280 B-Key (USB 2.0 x1, PCI-E 3.0 x2, SATA 3.0 x1)</td>
<td>1 Full size Mini-PCI-E with mSATA(USB 2.0 x1, PCI-E 3.0 x1, SATA 3.0 x1), M.2 Interface: SATA and PCI-E 3.0 x2 and USB 2.0 M.2 Form Factor: 2242, 2280, 3042 M.2 Key: B-Key M.2 2242/3042/2280 B-Key (USB 2.0 x1, PCI-E 3.0 x2, SATA 3.0 x1)</td>
<td>1 Full size Mini-PCI-E with mSATA(USB 2.0 x1, PCI-E 3.0 x1, SATA 3.0 x1), M.2 Interface: SATA and PCI-E 3.0 x2 and USB 2.0 M.2 Form Factor: 2242, 2280, 3042 M.2 Key: B-Key M.2 2242/3042/2280 B-Key (USB 2.0 x1, PCI-E 3.0 x2, SATA 3.0 x1)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>I-SATA1 (1x SATA 3.0 Port)</td>
<td>I-SATA1 (1x SATA 3.0 Port)</td>
<td>I-SATA1 (1x SATA 3.0 Port)</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 DP (DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0 (max. resolution up to 4096x2160@60Hz), DP++ (max. resolution up to 4096x2304@60Hz), Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0 (max. resolution up to 4096x2160@60Hz), DP++ (max. resolution up to 4096x2304@60Hz), Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 48-bit LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0 (max. resolution up to 4096x2160@60Hz), DP++ (max. resolution up to 4096x2304@60Hz), Intel® HD Graphics</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 headers, Type A); 1 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 headers, Type A); 1 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 headers, Type A); 1 USB 3.0 ports (2 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard Devices</strong></td>
<td>ALC 8885 HD Audio</td>
<td>ALC 8885 HD Audio</td>
<td>ALC 8885 HD Audio</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>SuperDoctor® 5, vPro, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+12V, +3.3V, +5V, 1.2V (VDDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RohS, System level control, WOL</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RohS, System level control, WOL</td>
<td>4-pin 12v R/A Type DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RohS, System level control, WOL</td>
</tr>
</tbody>
</table>

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
Embedded

vPro AMT

Desktop

(uATX 9.6"W x 9.6"H)

vPro AMT

Desktop

(uATX 9.6"W x 9.6"H)

vPro AMT

Mini-ITX 6.7"W x 6.7"H

vPro AMT

Mini-ITX 6.7"W x 6.7"H

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.

MODEL

X11SSQ

X11SSQ-L

X11SSV-Q

X11SSV-LVDS

Processor†

7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W

7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W

7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W

7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W

Chipset Form Factor

uATX 9.6"W x 9.6"H

uATX 9.6"W x 9.6"H

uATX 9.6"W x 9.6"H

uATX 9.6"W x 9.6"H

Optimized Chassis

- Supermicro chassis required for optimal functionality and performance.

Memory Capacity & Slots*

Up to 64GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots

Up to 32GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 2 DIMM slots

Up to 32GB Unbuffered Non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots

Up to 32GB Unbuffered Non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots

Expansion Slots

1 PCI-E 3.0 x16

1 PCI-E 3.0 x16

1 PCI-E 3.0 x16

1 PCI-E 3.0 x16

Onboard RAID Controller

Intel® Q170 controller for 6 SATA3 (6Gb/s) ports; RAID 0,1,5,10

Intel® Q170 Express controller for 5 SATA3 (6Gb/s) ports; RAID 0,1,5,10

Single LAN with Intel® PHY I219LM LAN controller

Single LAN with Intel® Ethernet Controller I210-AT

Onboard LAN

Dual 1GbE LAN with Intel® PHY I219LM & i210-AT

1GbE LAN with Intel® PHY I219LM

Onboard VGA

1 HDMI

2 HDMI

1 HDMI port, 1 DP (DisplayPort) port, 1 DVI - i port, 3 Independent Displays

1 HDMI port, 1 DP (DisplayPort) port, 1 DVI - i port, 3 Independent Displays

Onboard USB Ports

4 USB 3.0 ports (2 rear + 2 via header)

8 USB 2.0 ports (4 rear + 4 via headers)

4 USB 2.0 ports (2 rear + 2 via header)

4 USB 2.0 ports (2 rear + 2 via header)

Other Onboard I/O Devices

1 Port SuperDOM ALC885 HD Audio

1 Port SuperDOM ALC885 HD Audio

2 ports SuperDOM ALC888 HD Audio

Port SuperDOM ALC885 HD Audio

PS/2 Combo mouse and keyboard TPM Header

PS/2 Combo mouse and keyboard TPM Header

TMM Header

PS/2 Combo mouse and keyboard TPM 2.0 Header

Force On mode by jumper and AC recovery

Force On mode by jumper and AC recovery

AMT, NMI, SuperDoctor® 5, vPro, Watchdog

NMI, SSM, SuperDoctor® 5, Watchdog

Watchdog

 looming stars

+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control

+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control

+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control

+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control

Thermal Control

4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors

4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors

8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST

8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL, AMI UEFI

Other Features

ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST

BIOS

AMI UEFI

AMI UEFI

AMI UEFI

AMI UEFI
### Model Specifications

<table>
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<tr>
<th>Model</th>
<th>X11SSV-M4</th>
<th>X11SSV-M4F</th>
<th>X11SBA-F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor E3-1515M v5</td>
<td>Intel® Xeon® Processor E3-1585 v5</td>
<td>Intel® Pentium® Processor N3700</td>
</tr>
<tr>
<td><strong>Chipsset</strong></td>
<td>Intel® CM236</td>
<td>Intel® CM236</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
<td>Mini-ITX 6.7” x 6.7”</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3-1600 MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 3.0 x16</td>
<td>1 PCI-E 2.0 x8 (in x8 slot)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® CM236 controller for 4 SATA3 (6Gb/s) ports; RAID 0, 1, 5, 10, Intel® RSTe</td>
<td>Intel® CM236 controller for 4 SATA3 (6Gb/s) ports; RAID 0, 1, 5, 10, Intel® RSTe</td>
<td>SoC controller for 2 SATA3 (6Gb/s) ports</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Single LAN with Intel® Ethernet Controller I210-AT; Dual LAN with Intel® Ethernet Controller I530-AM2</td>
<td>Single LAN with Intel® PHY I219LM LAN controller; Single LAN with Intel® Ethernet Controller I210-AT; Dual LAN with Intel® Ethernet Controller I530-AM2</td>
<td>F-Dual LAN with Intel® Ethernet Controller I210-AT; -LN4F; Quad LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 HDMI, 1 DP (DisplayPort), 1 DVI-I, 1 Intel® Iris Pro Graphics P580</td>
<td>1 DVI-A, Aspeed AST2400 BMC</td>
<td>1 HDMI, 1 DP (DisplayPort), 1 VGA via Aspeed AST2400 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>5 USB 2.0 ports (+4 via headers + 1 Type A), 4 USB 3.0 ports (4 rear)</td>
<td>5 USB 2.0 ports (+4 via headers + 1 Type A), 4 USB 3.0 ports (4 rear)</td>
<td>7 USB 2.0 ports (2 rear +4 via headers + 1 Type A), 2 USB 3.0 ports (2 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>2 ports SuperDOM ALC 8885 HD Audio TPK 1.2 Header 1 COM Port (1 rear) COM Port in RJ45 Socket</td>
<td>2 ports SuperDOM ALC 8885 HD Audio TPK 1.2 Header 1 COM Port (1 rear) COM Port in RJ45 Socket</td>
<td>1 Port SuperDOM ALC 8885 HD Audio TPK Header 2 COM Ports (2 headers)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>IPMI 2.0 + KVM with shared LAN (-M4F only); SuperDoctor® 5, Watchdog: AMT, vPro (-M4 only)</td>
<td>IPMI 2.0 + KVM with shared LAN (-M4F only); SuperDoctor® 5, Watchdog: AMT, vPro (-M4 only)</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SSM, SU, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>3-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>2-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSZ-TLN4F</th>
<th>X11SSZ-F</th>
<th>X11SSZ-QF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor E3-1200 v6/v5 product family, 7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
<td>Intel® Xeon® Processor E3-1200 v6/v5 product family, 7th/7th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® Q170</td>
</tr>
<tr>
<td>Form Factor</td>
<td>uATX 9.6&quot; x 9.6&quot;</td>
<td>uATX 9.6&quot; x 9.6&quot;</td>
<td>uATX 9.6&quot; x 9.6&quot;</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x16 (in x16 slot) 2 PCI-E 3.0 x4 (in x8 slot)</td>
<td>1 PCI-E 3.0 x16 (in x16 slot) 2 PCI-E 3.0 x4 (in x8 slot)</td>
<td>1 PCI-E 3.0 x16 (in x16 slot) 2 PCI-E 3.0 x4 (in x8 slot)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
<td>Intel® Q170 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual 10GbE Base-T with XS50; 1GbE LAN with Intel® PHY i219LM; 1GbE LAN with Intel® i210-AT</td>
<td>1GbE LAN with Intel® PHY i219LM; 1GbE LAN with Intel® i210-AT</td>
<td>1GbE LAN with Intel® PHY i219LM; 1GbE LAN with Intel® i210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>2 DP (DisplayPort) 1 DVI-I Intel® HD Graphics 3 Independent Displays 1 Aspeed AST2400 BMC VGA Port</td>
<td>2 DP (DisplayPort) 1 DVI-I Intel® HD Graphics 3 Independent Displays 1 Aspeed AST2400 BMC VGA Port</td>
<td>2 DP (DisplayPort) 1 DVI-I Intel® HD Graphics 3 Independent Displays 1 Aspeed AST2400 BMC VGA Port</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 3.0 ports (2 rear + 2 via header) 9 USB 2.0 ports (2 rear + 6 via headers + 1 Type A)</td>
<td>4 USB 3.0 ports (2 rear + 2 via header) 9 USB 2.0 ports (2 rear + 6 via headers + 1 Type A)</td>
<td>4 USB 3.0 ports (2 rear + 2 via header) 9 USB 2.0 ports (2 rear + 6 via headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 Port SuperDOM 1 SATA DOM power connector ALC 888S HD Audio TPM Header 2 COM Ports (2 headers)</td>
<td>1 Port SuperDOM 1 SATA DOM power connector ALC 888S HD Audio TPM Header 2 COM Ports (2 headers)</td>
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<tr>
<td>Manageability</td>
<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM, SuperDoctor® 5 vPro, Watchdog</td>
<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM, SuperDoctor® 5 vPro, Watchdog</td>
<td>IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM, SuperDoctor® 5 vPro, Watchdog</td>
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<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>6 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe</td>
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</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.

† For detailed memory configurations please refer to Supermicro website.
### Model Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>A3SEV-4C-LN4</th>
<th>A3SEV-2C-LN4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor†</strong></td>
<td>Intel® Atom® Processor x6425E Single Socket FCBGA-1493 supported, CPU TDP supports up to 12W TDP</td>
<td>Intel® Atom® Processor x6211E Single Socket FCBGA-1493 supported, CPU TDP supports up to 6W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 X2 (in x8 slot) 1 M.2 B-Key SATA/PCI-E 3.0 x2/USB 3.0, 3042/2280 1 M.2 E-Key PCI-E 3.0 x1/USB 2.0, 2230</td>
<td>1 PCI-E 3.0 X2 (in x8 slot) 1 M.2 B-Key SATA/PCI-E 3.0 x2/USB 3.0, 3042/2280 1 M.2 E-Key PCI-E 3.0 x1/USB 2.0, 2230</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, 1 eDP (Embedded DisplayPort port), Supports 3 independent displays, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, 1 eDP (Embedded DisplayPort port), Supports 3 independent displays, Intel® HD Graphics</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Single LAN with Intel® Ethernet Controller I210IT ONLY I210 support PXE 3 LAN with 1GbE with Marvell® 88E1512</td>
<td>Single LAN with Intel® Ethernet Controller I210IT ONLY I210 support PXE 3 LAN with 1GbE with Marvell® 88E1512</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, 1 eDP (Embedded DisplayPort port), Supports 3 independent displays, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, 1 eDP (Embedded DisplayPort port), Supports 3 independent displays, Intel® HD Graphics</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 2 USB 3.1 Gen2 ports (2 Rears Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers) 2 USB 3.1 Gen2 ports (2 Rears Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 Port SuperDOM ALC 8885 HD Audio TPM 2.0 Header &amp; Chip both 4 COM Ports (4 headers); Supports RS232/422/485</td>
<td>1 Port SuperDOM ALC 8885 HD Audio TPM 2.0 Header &amp; Chip both 4 COM Ports (4 headers); Supports RS232/422/485</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Memory Voltages, System level control, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Memory Voltages, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, RoHS, System level control, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
## Embedded/IoT Building Block Solutions - September 2022

### 4-Core Denverton
- **8-Core Denverton**
- **8-Core Denverton**

#### Eight 1Gbe RJ45

Intel® Quick Assist Technology

### Flex ATX 9.0"W x 7.25"H

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
<th>Memory Capacity &amp; Slots</th>
<th>Expansion Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2SDV-4C-LN8F</td>
<td>Intel® Atom® Processor C3558. Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>System on Chip</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Sce300-LED, SC504-203B</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x 2 (in x4 slot) Option for Slot 6 or Slot 7</td>
</tr>
<tr>
<td>A2SDV-8C-LN8F</td>
<td>Intel® Atom® Processor C3558. Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>System on Chip</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Sce300-LED, SC504-203B</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x 4 Option for Slot 6 or Slot 7</td>
</tr>
<tr>
<td>A2SDV-4C-LN10PF</td>
<td>Intel® Atom® Processor C3558. Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>System on Chip</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Sce300-LED, SC504-203B</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x 3.0 to x2/USB 3.0</td>
</tr>
<tr>
<td>A2SDV-8C-LN10PF</td>
<td>Intel® Atom® Processor C3558. Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>System on Chip</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Sce300-LED, SC504-203B</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>1 PCI-E 3.0 x 4 Option for Slot 6 or Slot 7</td>
</tr>
</tbody>
</table>

#### Onboard RAID Controller
- SoC controller for 3 SATA3 (6 Gbps) ports;
- SoC controller for 5 SATA3 (6 Gbps) ports;
- SoC controller for 5 SATA3 (6 Gbps) ports;
- SoC controller for 5 SATA3 (6 Gbps) ports;

#### Onboard LAN
- Quad LAN with Intel® C3000 SoC Controller I350-AM4
- Quad LAN with Intel® C3000 SoC Controller I350-AM4
- Quad LAN with Intel® C3000 SoC Controller I350-AM4
- Quad LAN with Intel® C3000 SoC Controller I350-AM4

#### Onboard VGA
- 1 VGA port, Aspeed AST2400 BMC
- 1 VGA port, Aspeed AST2400 BMC
- 1 VGA port, Aspeed AST2400 BMC
- 1 VGA port, Aspeed AST2400 BMC

#### USB Ports
- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 2.0 ports (2 headers, Type A)

#### Other Onboard I/O Devices
- TPM Header 1 COM Port (1 header)
- TPM Header 1 COM Port (1 header)
- TPM Header 1 COM Port (1 header)
- TPM Header 1 COM Port (1 header)

### BIOS
- AMI UEFI
- AMI UEFI
- AMI UEFI
- AMI UEFI

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*Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SDi-16C-TP8F</th>
<th>A2SDV-16C-TLN5F</th>
<th>A2SDV-12C+--TLN5F</th>
<th>A2SDV-8C-TLN5F</th>
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</thead>
<tbody>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (170.2mm x 170.2mm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (170.2mm x 170.2mm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (170.2mm x 170.2mm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (170.2mm x 170.2mm)</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>e300 504-203B 505-203B</td>
<td>e300 504-203B 505-203B</td>
<td>e300 504-203B 505-203B</td>
<td>e300 504-203B 505-203B</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>¹</td>
<td>¹</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 3.0 x8</td>
<td>1 PCI-E 3.0 x8</td>
<td>1 PCI-E 3.0 x8</td>
<td>1 PCI-E 3.0 x8</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; Quad LAN with Intel® C3000 SoC 2 10GBase-T 2 10Gbps SFP+</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; Quad LAN with Intel® X757 Single LAN with Intel® X757</td>
<td>¹</td>
<td>¹</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Quad LAN with 10GBase-T with Intel® X757 Single LAN with Intel® X757</td>
<td>Quad LAN with 10GBase-T with Intel® X757 Single LAN with Intel® X757</td>
<td>Quad LAN with 10GBase-T with Intel® X757 Single LAN with Intel® X757</td>
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<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
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<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 headers, Type A) 2 USB 3.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 5 USB 3.0 ports (4 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 5 USB 3.0 ports (4 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 5 USB 3.0 ports (4 rear + 1 Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>IPMI2.0, NMI, SuperDoctor® S, Watchdog +1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDDIMM), 4 -fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCGI</td>
<td>IPMI2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT</td>
<td>IPMI2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT</td>
<td>IPMI2.0, NMI, SuperDoctor® S, Watchdog +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

¹: Dual Cooling Zones, Innovation Engine, RoHS, SDDC, System level control, UID, WOL.
## Embedded/IoT Building Block Solutions - September 2022

### Onboard RAID Controller

- **N/A**

### Onboard LAN

- **Dual LAN with Intel® Ethernet Controller I210IT**

### Onboard VGA

- **1 HDMI port, 1 HDMI port, for Dual channel 48-bit LVDS**
- **1 LVDS port, 1 HDMI port, Dual channel 48-bit LVDS**
- **1 VESA 16-bit LVDS, Intel® HD Graphics**
- **2 USB 2.0 ports (2 rear)**

### USB Ports

- **2 USB 3.0 ports (2 rear)**

### Expansion Slots

- **1 Half size Mini-PCI-E (USB 2.0 x1, PCIe 2.0 x1)**
- **1 EIO (1 DP/HDMI, 2 PCI-E x1, 2 USB 2.0, LPC, SATA3, SMbus, 12Vsb 2A, 5Vsb 2.8A)**
- **M.2 Interface: SATA and PCIe x2.0 and PCIe x1.0**
- **M.2 Form Factor: 2242**

### Onboard I/O Devices

- **32 pin Connector A (2x16-Pin, 20mm pitch)**
- **34 pin Connector B (2x17-Pin, 20mm pitch)**
- **1 x SMbus and 5V/1A SATA Power box header**

### Manageability

- **SuperDoctor® 5, Watchdog**
- **ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL, -30°C to 75°C Operating Temperature, +12V DC Input, AMI UEFI**

### BIOS

- **AMI UEFI**

### Processor

- **Intel® Atom® Processor E3940; up to 9.5W TDP**

### Chipset

- **System on Chip**

### Form Factor

- **Pico-ITX 2.5" SBC, 3.9”x 2.8” (9.91cm x 7.11cm)**

### Optimized Chassis

- **Mini ITX: SCEO5**

### Memory Capacity & Slots

- **Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1666 MHz, in 1 DIMM slot**

### Onboard VGA

- **1 X24-Pin 12V DC-IN power input box header (2.0mm pitch)**

### Other Features

- **SuperDoctor® 5, Watchdog**
- **ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL, -30°C to 75°C Operating Temperature, +12V DC Input, AMI UEFI**

### BIOS

- **AMI UEFI**

### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2SAP-L</td>
<td>Intel® Atom® Processor E3930; up to 6.5W TDP</td>
<td>System on Chip</td>
<td>Pico-ITX 2.5&quot; SBC, 3.9”x 2.8”</td>
<td>SCEO5</td>
</tr>
<tr>
<td>A2SAP-L1</td>
<td>Intel® Atom® Processor E3930; up to 6.5W TDP</td>
<td>System on Chip</td>
<td>Pico-ITX 2.5&quot; SBC, 3.9”x 2.8”</td>
<td>SCEO5</td>
</tr>
<tr>
<td>A2SAP-E</td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>System on Chip</td>
<td>Pico-ITX 2.5&quot; SBC, 4”x 2.83”</td>
<td>SCEO5</td>
</tr>
</tbody>
</table>
## Embedded

### 16-Core Denverton

**Quad 1GbE LAN**

- **IPMI**: Quad 1GbE LAN

### 12-Core Denverton

**Intel® Quick Assist Technology**

- **Quad 1GbE LAN**

### 8-Core Denverton

**Intel® Quick Assist Technology**

- **Quad 1GbE LAN**

### 4-Core Denverton

**Intel® Quick Assist Technology**

- **Quad 1GbE LAN**

### 2-Core Denverton

**Intel® Quick Assist Technology**

- **Quad 1GbE LAN**

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### MODEL

<table>
<thead>
<tr>
<th>A2SDi-16C-HLN4F</th>
<th>A2SDi-16C+-HLN4F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Atom® Processor C3858, Single Socket FCBGA1310 supported, CPU TDP support up to 32W TDP System on Chip</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>SC300</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz</td>
</tr>
<tr>
<td><strong>System</strong></td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>Power connector, Chassis intrusion detection, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Innovation Engine, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
</tbody>
</table>

### Expansion Slots

1. PCI-E 3.0 x4
2. PCI-E 3.0 x4
3. PCI-E 3.0 x4
4. PCI-E 3.0 x4

### Onboard RAID Controller

- **SCo controller for 12 SATA3 (6 Gbps)** ports;
- **SCo controller for 12 SATA3 (6 Gbps)** ports;
- **SCo controller for 12 SATA3 (6 Gbps)** ports;

### Onboard LAN

- **Quad LAN with Intel® C3000 SoC 1GbE**
- **Quad LAN with Intel® C3000 SoC 1GbE**
- **Quad LAN with Intel® C3000 SoC 1GbE**

### Onboard VGA

- **1 VGA port**
- **1 VGA port**
- **1 VGA port**

### USB Ports

- **4 USB 2.0 ports (2 rear + 2 headers)**
- **4 USB 2.0 ports (2 rear + 2 headers)**
- **4 USB 2.0 ports (2 rear + 2 headers)**

### Other Onboard I/O Devices

- **TPM Header**
- **TPM Header**
- **TPM Header**

### PC Health Monitoring

- **IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog, +12V, +3.3V, +5V, +5V standby, 1.05V (PC1), 1.2V (VDDIMM), 3.3V standby, 4-pin status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT**
- **IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog, +12V, +3.3V, +5V, +5V standby, 1.05V (PC1), 1.2V (VDDIMM), 3.3V standby, 4-pin status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT**

### Power Control

- **4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors**
- **4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors**

### BIOS

- **AMI UEFI**
- **AMI UEFI**
- **AMI UEFI**

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**Mini-ITX 6.7" W x 6.7" H**
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SDi-TP8F</th>
<th>A2SDi-LN4F</th>
<th>A2SDi-H-TP4F</th>
<th>A2SDi-H-TF</th>
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</thead>
<tbody>
<tr>
<td>Processor*</td>
<td>Intel® Atom™ Processor C3858, FCBGA1310 supported, CPU TDP supported 25W</td>
<td>Intel® Atom™ Processor C3850; Single Socket FCBGA1310 supported, CPU TDP supported 25W</td>
<td>Intel® Atom™ Processor C3958S, 25W; Single Socket FCBGA1310 supported</td>
<td>Intel® Atom™ Processor C3758, 31W; Single Socket FCBGA1310 supported</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 3.0 x4, 1 miniPCI-E with mSATA supports (half card only)</td>
<td>1 PCI-E 3.0 x4, 1 miniPCI-E with mSATA supports (half card only)</td>
<td>1 PCI-E 3.0 x4, M2 Interface: PCI-E 3.0 x2 and SATA M2 Form Factor: 2242, 2280 M2 Key: M-Key</td>
<td>1 PCI-E 3.0 x4, M2 Interface: PCI-E 3.0 x2 and SATA M2 Form Factor: 2242, 2280 M2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 4 SATA3 (6 GBps) ports;</td>
<td>SoC controller for 4 SATA3 (6 GBps) ports;</td>
<td>SoC controller for 12 SATA3 (6 GBps) ports;</td>
<td>SoC controller for 12 SATA3 (6 GBps) ports;</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>-TP8F: Quad LAN with Intel® C3000 SoC, 2 10Gb BaseT, 2 10Gb SFP+</td>
<td>-LN4F: Quad LAN with Intel® Ethernet Controller i350-AM4 GBE</td>
<td>-TP4F: Quad LAN with Intel® C3000 SoC, 2 10Gb BaseT, 2 10Gb SFP+</td>
<td>-TF: 2 10Gb SFP+</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 headers), 2 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 headers), 2 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (2 rear + 2 headers), 1 USB 3.0 ports (+ 1 Type A)</td>
<td>4 USB 2.0 ports (2 rear + 2 headers), 1 USB 3.0 ports (+ 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), -4 fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCGI</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), -4 fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCGI</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), -4 fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCGI</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), -4 fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCGI</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
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</tr>
<tr>
<td>Other Features</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
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*AMI UEFI

**AMI UEFI**
### Embedded/IoT Building Block Solutions - September 2022

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SAV</th>
<th>A2SAV-L</th>
<th>A2SAV-2C-L</th>
<th>X11SAA</th>
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<tr>
<td>Processor</td>
<td>Intel® Atom® Processor E3940, Single Socket FCBGA1296 supported, CPU TDP support up to 9W TDP</td>
<td>Intel® Atom® Processor E3930, Single Socket FCBGA1296 supported, CPU TDP support up to 9W TDP</td>
<td>Intel® Pentium® Processor N4200, Single Socket FCBGA1296 supported, CPU TDP support up to 6W TDP</td>
<td>Intel® Pentium® Processor N4200, Single Socket FCBGA1296 supported, CPU TDP support up to 6W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>SC101S</td>
<td>SC101i</td>
<td>SC101S</td>
<td>SC101i</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 8GB 1866 MHz DDR3L Non-ECC SO-DIMM in 1 socket</td>
<td>Up to 8GB 1866 MHz DDR3L Non-ECC SO-DIMM in 1 socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
<td>1 PCI-E 2.0 x2 (in x8 slot)</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>1 Type A</td>
<td>1 Type A</td>
<td>8 USB 2.0 ports (2 rear + 5 headers)</td>
<td>8 USB 2.0 ports (2 rear + 5 headers)</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>1 Port SuperDOM, ALC 8885 HD Audio, 3 COM Ports (1 rear, 2 headers)</td>
<td>1 Port SuperDOM, ALC 8885 HD Audio, 3 COM Ports (1 rear, 2 headers)</td>
<td>1 Port SuperDOM, ALC 8885 HD Audio, 3 COM Ports (1 rear, 2 headers)</td>
<td>1 Port SuperDOM, ALC 8885 HD Audio, 3 COM Ports (1 rear, 2 headers)</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
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<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
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*Supermicro chassis required for optimal functionality and performance.
*For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SAN-LN4-E</th>
<th>A2SAN-LN4-C</th>
<th>X11SAN-WOHS</th>
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<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Atom® Processor E3940; up to 9.5W TDP</td>
<td>Intel® Celeron® Processor J3455; up to 10W TDP</td>
<td>Intel® Pentium™ Processor N4200; up to 6W TDP</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>3.5” SBC, 5.866” x 4.17” (14.9cm x 10.6cm)</td>
<td>3.5” SBC, 5.87” x 4.17” (14.9cm x 10.6cm)</td>
<td>3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 Key: B-Key, E-Key 1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request) 2 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder 1 M.2 2230 E-Key (PCI-E 2.0 x1/USBD)</td>
<td>M.2 Key: B-Key, E-Key 1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request) 2 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder 1 M.2 2230 E-Key (PCI-E 2.0 x1/USBD)</td>
<td>1 Full size Mini-PCI-E (USB2.0, PCI-E Gen2 x 1) 1 M.2 2280 B-Key (PCI-E Gen2 x 1, SATA x 1) M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0 M.2 Form Factor: 2280 M.2 Key: B-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports;</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® Ethernet Controller I210IT</td>
<td>Quad LAN with Intel® Ethernet Controller I211-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI port, Intel® HD Graphics</td>
<td>1 HDMI port, Intel® HD Graphics</td>
<td>1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 via headers) 2 USB 3.2 Gen1 ports (2 rear) 1 USB 3.2 Gen2 ports</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port (1 header); (1 x RS232) 1 8-bit GPIO header 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GbE LAN active LED</td>
<td>1 COM Port (1 header); (1 x RS232) 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GbE LAN active LED</td>
<td>ALC 8885 HD Audio TPM 2.0 Chip 4 COM Ports (2 headers); (2 RS232, 2 RS232/422/485, RS-485 supports Auto flow control) 1 HD Audio header (Mic-in/headphone-Out)(Audio only support at 0~600C) 1 8-bit GPIO header 1 SMBus header 1 Panel backlight power header 1 Speaker 1 system Fan</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI</td>
<td>+1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
<td>8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### Embedded/IoT Building Block Solutions - September 2022

- **Low Power**
  - **A2SAN-H**
  - **A2SAN-H-WOHS**
  - **A2SAN-E(-WOHS)**
  - **A2SAN-L(-WOHS)**
- **IoT Gateway**
  - **A1SQN**
  - **A1SQN-E**

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#### Model Details

**A2SAN-H**

- **Processor**: Intel® Atom® Processor E3940; up to 9.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Memory Capacity & Slots**: 1 Full size Mini-PCI-E (USB 2.0 x1), PCI-E 2.0 x1
- **Expansion Slots**: 1x M.2 2280 B-Key for SATA or PCI-E SSD (2242/3042, B-key, M.2 module is supported by extender bracket)
- **Thermal Control**: M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 4 USB 2.0 ports (4 via headers, Type A); 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: 1 HD Audio header (Mic-in/Headphone-Out); 1 8-bit GPIO header; 1 SMBus header; 1 Panel backlight power header; 1 Speaker; 1 System Fan
- **Manageability**: SuperDoctor® 5, Watchdog +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12V DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

**A2SAN-H-WOHS**

- **Processor**: Intel® Atom® Processor E3940; up to 9.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Memory Capacity & Slots**: 1 Full size Mini-PCI-E (USB 2.0 x1), PCI-E 2.0 x1
- **Expansion Slots**: 1x M.2 2280 B-Key for SATA or PCI-E SSD (2242/3042, B-key, M.2 module is supported by extender bracket)
- **Thermal Control**: M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 4 USB 2.0 ports (4 via headers, Type A); 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: 1 HD Audio header (Mic-in/Headphone-Out); 1 8-bit GPIO header; 1 SMBus header; 1 Panel backlight power header; 1 Speaker; 1 System Fan
- **Manageability**: SuperDoctor® 5, Watchdog +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12V DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

**A2SAN-E(-WOHS)**

- **Processor**: Intel® Atom® Processor E3930; up to 6.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Memory Capacity & Slots**: 1 Full size Mini-PCI-E (USB 2.0 x1), PCI-E 2.0 x1
- **Expansion Slots**: 1x M.2 2280 B-Key for SATA or PCI-E SSD (2242/3042, B-key, M.2 module is supported by extender bracket)
- **Thermal Control**: M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 4 USB 2.0 ports (4 via headers, Type A); 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: 1 HD Audio header (Mic-in/Headphone-Out); 1 8-bit GPIO header; 1 SMBus header; 1 Panel backlight power header; 1 Speaker; 1 System Fan
- **Manageability**: SuperDoctor® 5, Watchdog +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12V DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

**A2SAN-L(-WOHS)**

- **Processor**: Intel® Quark™ SoC X1021
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Memory Capacity & Slots**: 1 Full size Mini-PCI-E (USB 2.0 x1), PCI-E 2.0 x1
- **Expansion Slots**: 1x M.2 2280 B-Key for SATA or PCI-E SSD (2242/3042, B-key, M.2 module is supported by extender bracket)
- **Thermal Control**: M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 4 USB 2.0 ports (4 via headers, Type A); 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: 1 HD Audio header (Mic-in/Headphone-Out); 1 8-bit GPIO header; 1 SMBus header; 1 Panel backlight power header; 1 Speaker; 1 System Fan
- **Manageability**: SuperDoctor® 5, Watchdog +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12V DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

**A1SQN**

- **Processor**: Intel® Quark™ SoC X1021
- **Chipset**: System on Chip
- **Form Factor**: Proprietary 4.1” x 4.0”
- **Memory Capacity & Slots**: 2 Mini-PCI-E slots
- **Expansion Slots**: 1x M.2 2280 B-Key (PCI-E 2.0 x1, SATA x1)
- **Thermal Control**: M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: 1 HD Audio header (Mic-in/Headphone-Out); 1 8-bit GPIO header; 1 SMBus header; 1 Panel backlight power header; 1 Speaker; 1 System Fan
- **Manageability**: SuperDoctor® 5, Watchdog +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12V DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

**A1SQN-E**

- **Processor**: Intel® Quark™ SoC X1021
- **Chipset**: System on Chip
- **Form Factor**: Proprietary 4.1” x 4.0”
- **Memory Capacity & Slots**: 2 Mini-PCI-E slots
- **Expansion Slots**: 1x M.2 2280 B-Key (PCI-E 2.0 x1, SATA x1)
- **Thermal Control**: M.2 Interface: SATA and PCI-E 2.0 x1 and USB 2.0
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: 1 HD Audio header (Mic-in/Headphone-Out); 1 8-bit GPIO header; 1 SMBus header; 1 Panel backlight power header; 1 Speaker; 1 System Fan
- **Manageability**: SuperDoctor® 5, Watchdog +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12V DC power connector, ACPI power management, Control of power for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL
- **BIOS**: AMI UEFI

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*[Supermicro chassis required for optimal functionality and performance.]

*For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>Processor†</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Optimized Chassis</th>
<th>Memory Capacity &amp; Slots*</th>
<th>Expansion Slots</th>
<th>Onboard RAID Controller</th>
<th>Onboard VGA</th>
<th>USB Ports</th>
<th>Other Onboard I/O Devices</th>
<th>Manageability</th>
<th>PC Health Monitoring</th>
<th>Thermal Control</th>
<th>Other Features</th>
<th>BIOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1SRi-2758F</td>
<td>Intel® Atom™ Processor C2758, Intel® Atom™ Processor C2358 product families; Single Socket FCGBA1283 supported; CPU TDP support up to 20W / 15W/7W</td>
<td>SC101I</td>
<td>Mini-ITX 6.75&quot; x 6.75&quot;</td>
<td>2758/2558: up to 64GB Unbuffered ECC 5O DIMM, DDR3-1600 MHz, in 4 slots; -2358: up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 slots</td>
<td>Up to 64GB ECC SODIMM in 4 slots</td>
<td>1 PCI-E 2.0 x8</td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6 Gb/s) ports; 2 SATA2 (3 Gb/s) ports</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>4-pin LED indication, PWM fan speed control, System level control, Chassis intrusion header, Supports system management utility, System level control</td>
<td>1 SATA DOM power connector 2 COM Ports (1 rear, 1 header) TFM header</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor® 5, SSIM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>3-pin Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C - 60°C operating temperature, Intel® QuickAssist Technology</td>
<td>AMI UEFI</td>
<td></td>
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<tr>
<td>A1SAi-2558F</td>
<td>Intel® Atom™ Processor C2550 &amp; Intel® Atom™ Processor C2358 product families; Single Socket FCGBA1283 supported; CPU TDP support up to 20W / 14W</td>
<td>SC101S</td>
<td>Mini-ITX 6.75&quot; x 6.75&quot;</td>
<td>2758/2558: up to 64GB Unbuffered ECC 5O DIMM, DDR3-1600 MHz, in 4 slots; -2358: up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 slots</td>
<td>Up to 64GB ECC SODIMM in 4 slots</td>
<td>1 PCI-E 2.0 x8</td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6 Gb/s) ports; 2 SATA2 (3 Gb/s) ports</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>4-pin LED indication, PWM fan speed control, System level control, Chassis intrusion header, Supports system management utility, System level control</td>
<td>1 SATA DOM power connector 2 COM Ports (1 rear, 1 header) TFM header</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor® 5, SSIM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>3-pin Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C - 60°C operating temperature, Intel® QuickAssist Technology</td>
<td>AMI UEFI</td>
<td></td>
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<tr>
<td>A1SRM-2758F</td>
<td>Intel® Atom™ Processor C2750 Single Socket FCGBA1283 supported; CPU TDP support 20W</td>
<td>SC101T</td>
<td>Micro-ATX 6.75&quot; x 7.5&quot;</td>
<td>SC83MTQ-202CB</td>
<td>Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots x8 Width only</td>
<td>1 PCI-E 2.0 x8</td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6 Gb/s) ports; 2 SATA2 (3 Gb/s) ports</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>1 SATA DOM power connector 2 COM Ports (1 rear, 1 header) TFM header</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor® 5, SSIM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>3-pin Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL</td>
<td>AMI UEFI</td>
<td></td>
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<tr>
<td>A1SAM-2750F</td>
<td>Intel® Atom™ Processor C2750 &amp; Intel® Atom™ Processor C2550 product families; Single Socket FCGBA1283 supported; CPU TDP support 20W</td>
<td>SC101T-203B</td>
<td>Micro-ATX 6.75&quot; x 7.5&quot;</td>
<td>SC83MTQ-350CB</td>
<td>Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots x8 Width only</td>
<td>1 PCI-E 2.0 x8</td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6 Gb/s) ports; 2 SATA2 (3 Gb/s) ports</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>1 SATA DOM power connector 2 COM Ports (1 rear, 1 header) TFM header</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor® 5, SSIM, Watchdog Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>3-pin Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL</td>
<td>AMI UEFI</td>
<td></td>
</tr>
</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.

† For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th><strong>MODEL</strong></th>
<th><strong>A1SRM-LN7F-2758</strong></th>
<th><strong>A1SRM-LN7F-2358</strong></th>
<th><strong>A1SRM-LN5F-2358</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Processor†</strong></td>
<td>Intel® Atom™ Processor C2758 &amp; Intel® Atom™ Processor C2358 product families; Single Socket FCBGA1283 supported; CPU TDP support up to 20W/7W</td>
<td>Intel® Atom™ Processor C2758 &amp; Intel® Atom™ Processor C2358 product families; Single Socket FCBGA1283 supported; CPU TDP support up to 20W/7W</td>
<td>Intel® Atom™ Processor C2758 &amp; Intel® Atom™ Processor C2358 product families; Single Socket FCBGA1283 supported; CPU TDP support up to 20W/7W</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>SoC (System on Chip)</td>
<td>SoC (System on Chip)</td>
<td>SoC (System on Chip)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Micro-ATX 8.0&quot; x 9.6&quot;</td>
<td>Micro-ATX 8.0&quot; x 9.6&quot;</td>
<td>Micro-ATX 8.0&quot; x 9.6&quot;</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*<em>Memory Capacity &amp; Slots</em></td>
<td>-2758: 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots; x8 Width only</td>
<td>-2558: 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots; x8 Width only</td>
<td>-2358: 16GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 2 DIMM slots; x8 Width only</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCI-E 2.0 x4 (in x8 slot)</td>
<td>1 PCI-E 2.0 x4 (in x8 slot)</td>
<td>1 PCI-E 2.0 x4 (in x8 slot)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s)</td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s)</td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s); +2358: with 2 SATA2 and 2 SATA3 ports</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>VGA, Aspeed AST2400 BMC</td>
<td>VGA, Aspeed AST2400 BMC</td>
<td>VGA, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>SuperDOM TPM header 2 COM Ports (1 rear, 1 header)</td>
<td>SuperDOM TPM header 2 COM Ports (1 rear, 1 header)</td>
<td>SuperDOM TPM header 2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>IPMI 2.0 + KVM with shared i210 LAN, NMI, SuperDoctor® 5, SSM, Watchdog</td>
<td>IPMI 2.0 + KVM with shared i210 LAN, NMI, SuperDoctor® 5, SSM, Watchdog</td>
<td>IPMI 2.0 + KVM with shared i210 LAN, NMI, SuperDoctor® 5, SSM, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® QuickAssist Technology, System level control, UID, WOL, 0°C-60°C operating temperature</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® QuickAssist Technology, System level control, UID, WOL, 0°C-60°C operating temperature</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® QuickAssist Technology, System level control, UID, WOL, 0°C-60°C operating temperature</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

1 Superscript chassis required for optimal functionality and performance.
2 For detailed memory configurations please refer to Supermicro website.
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(X10SDV-16C-TLN4F)

Intel® Xeon® Processor D product family,
Single Socket FCGBA 1667 supported; 16C-D:1528, 16 Core, 45W;
12C-D: 1527, 8 Core, 45W; 8C: D-1514, 12MB, 8 Core, 45W;
6C: D-1528, 4MB, 8 Core, 35W; 4C-1508, 2MB, 2 Core, 25W; with Passive Heatsink.

(X10SDV-12C-TLN4F)

Intel® Xeon® Processor D product family,
Single Socket FCGBA 1667 supported; 12C-D:1527, 16 Core, 45W;
12C-D: 1517, 12MB, 12 Core, 45W; 8C: D-1514, 12MB, 8 Core, 45W;
6C: D-1528, 9MB, 6 Core, 35W; 4C: D-1510, 4MB, 4 Core, 35W; with Passive Heatsink.

(X10SDV-8C-TLN4F+)

Intel® Xeon® Processor D product family,
Single Socket FCGBA 1667 supported; 8C-D:1528, 12 Core, 45W;
6C: D-1528, 8MB, 8 Core, 35W; 4C: D-1510, 4MB, 4 Core, 35W; with Passive Heatsink.

(X10SDV-4C-TLN4F)

Intel® Xeon® Processor D product family,
Single Socket FCGBA 1667 supported; 4C-D:1520, 6MB, 4 Core, 45W;
2C-D:1508, 3MB, 2 Core, 25W; with Passive Heatsink.

(X10SDV-8C++-LN2F)

Intel® Xeon® Processor D-1541, 8 Core;
Single Socket FCGBA1667 supported;
CPU TDP support 45W; -8C+ with Active Heatsink -F: with Passive Heatsink.

(X10SDV-2C-TLN4F)

Intel® Xeon® Processor D-1514, 2 Core;
Single Socket FCGBA1667 supported;
CPU thermal trip support for Processor protection.
M.2 NGFF connector, Node Manager Support, System level control, UID, WOL.

(BIOS)

Embedded (Mini-ITX 6.7" x 6.7")

(RoHS, SDDC, System level control, UID, WOL)

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X10SDV-TLN4F</th>
<th>X10SDV-16C-TLN4F</th>
<th>X10SDV-6C-TLN4F</th>
<th>X10SDV-4C-TLN4F</th>
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</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Xeon® Processor D product family; Single Socket FCBGA 1667 supported; D-1541, 12MB, 8 Core, 45W; 16C: Intel® Xeon® Processor D-1587, 24MB, 16 Core, 65W; 6C: Intel® Xeon® Processor D-1528, 9MB, 6 Core, 35W; 4C: Intel® Xeon® Processor D-1518, 6MB, 4 Core, 35W; with Active Heatsink.</td>
<td>Intel® Xeon® Processor D-1587 product family; Single Socket FCBGA1667 supported; CPU TDP support 65W</td>
<td>Intel® Xeon® Processor D-1537, 8 Core; Single Socket FCBGA 1667 supported; CPU TDP support 35W; 4C: Intel® Xeon® Processor D-1518, 6MB, 4 Core, 35W; 2C: Intel® Pentium® Processor D5108 Single Socket FCBGA1667 supported; CPU TDP support 25W</td>
<td>Intel® Xeon® Processor D-1518, 4 Core; Single Socket FCBGA 1667 supported; CPU TDP support 35W; 2C: Intel® Pentium® Processor D5108 Single Socket FCBGA1667 supported; CPU TDP support 25W</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
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<tr>
<td>Optimized Chassis</td>
<td>SC72TITQ-250B</td>
<td>SC3e00</td>
<td>SC3e00</td>
<td>SC3e00</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB ECC RDIMM, or 64GB ECC/Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, or 64GB ECC/Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, or 4GB ECC/Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, or 4GB ECC/Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCl E 3.0 x16</td>
<td>2 PCl E 3.0 x8, M Key 2242/2280</td>
<td>2 PCl E 3.0 x8, M Key 2242/2280/22110</td>
<td>2 PCl E 3.0 x8, M Key 2242/2280/22110</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 4 SATA3 (6Gb/s) ports; RSTe, Intel® Raid 0,1,5,10, Broadcom® 2116 SW controller for 16 SATA3 (6Gb/s) ports; SAS2 and SATA3; Dual 10GBE SFP+ from SoC; Dual 1GBE LAN with Intel® I210; Quad 1GBE LAN with Intel® I550-AM2;</td>
<td>Dual 10GBE SFP+ from SoC; Dual 1GBE LAN with Intel® I210; Dual 1GBE LAN with Intel® I550-AM2;</td>
<td>SoC controller for 4 SATA3 (6Gb/s) ports; RSTe, Intel® Raid 0,1,5,10, Broadcom® 2116 SW controller for 16 SATA3 (6Gb/s) ports; SAS2 and SATA3; Dual 1GBE SFP+ from SoC; Dual 1GBE LAN with Intel® I210;</td>
<td>SoC controller for 4 SATA3 (6Gb/s) ports; RSTe, Intel® Raid 0,1,5,10, Broadcom® 2116 SW controller for 16 SATA3 (6Gb/s) ports; SAS2 and SATA3; Dual 1GBE SFP+ from SoC; Dual 1GBE LAN with Intel® I210; Dual 1GBE LAN with Intel® I550-AM2;</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual 10GBase-T with SoC; Dual 1GBE LAN with Intel® I550-AM2;</td>
<td>1 VGA via Aspeed AST2400 BMC</td>
<td>1 VGA via Aspeed AST2400 BMC</td>
<td>1 VGA via Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>2 USB 3.0 ports (2 rear); 5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
<td>2 USB 3.0 ports (2 rear); 5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
<td>2 USB 3.0 ports (2 rear); 5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 Port SuperDOM</td>
<td>2 ports SuperDOM</td>
<td>2 ports SuperDOM</td>
<td>2 ports SuperDOM</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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### Model Comparison

**Model**
- **X105DV-4C+**
- **X105DV-2C+**
- **X105BA**
- **X105SLQ**
- **X105LV**

**Processor**
- Intel® Celeron® Processor J1900, Single Socket FCBGA1677 supported; CPU TDP support 25W
- Intel® Pentium® Processor D1508

**Chipset**
- System on Chip Intel® Q87 Express
- System on Chip Intel® H81 controller for 2 SATA3 (6Gb/s) ports; RAID 0,1,5,10
- System on Chip Intel® Q87 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,10 (X10SBA only)
- System on Chip Intel® H81 controller for 2 SATA3 (6Gb/s) ports; RAID 0,1,5,10

**Memory**
- 2GB DDR3-1066 MHz in 4 DIMM slots
- Up to 2GB DDR3-1066 MHz in 4 DIMM slots
- Up to 16GB non-EC ECC DIMM in 2 slots

**Expansion Slots**
- 2 PCI-E x1
- 1 Mini-PCI-E x1
- 1 Mini-PCI-E x1, 3 COM ports

**Onboard RAID Controller**
- Intel® Q87 Express
- Intel® H81 Express

**Onboard LAN**
- Dual 1GBE(SFP+ from SoC)
- Dual 1GBE Gigabit Ethernet with Intel® 82583V

**Onboard VGA**
- 1 Mini-PCI-E slot, 1 PCI-E 3.0 x16
- 1 Mini-PCI-E Slot

**USB Ports**
- 2 USB 3.0 ports (2 rear) + 4 via headers
- 4 USB 2.0 ports (1 rear + 3 via headers)

**Other Onboard I/O Devices**
- 1 SATA DOM power connector
- 1 USB 3.0 port (1 rear)

**Manageability**
- Redfish 1.0 + IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM

**Power Management**
- SuperDoctor® 5, SSM, Watchdog

**BIOS**
- AMI UEFI

### Low Power

**Model**
- **X105BA-L**

**Processor**
- Intel® Celeron® Processor J1900, Single Socket FCBGA1170 supported; CPU TDP 10W, 4C, 2.0GHz-2.42GHz

**Chipset**
- System on Chip Intel® H81 Express

**Memory**
- 4GB DDR3-1066 MHz in 4 DIMM slots

**Expansion Slots**
- 2 PCI-E x1

**Onboard LAN**
- 1 Gigabit Ethernet

**Onboard VGA**
- 1 Mini-PCI-E slot

**USB Ports**
- 2 USB 3.0 ports (2 rear) + 4 via headers

**Other Onboard I/O Devices**
- 1 SATA DOM power connector
- 1 USB 3.0 port (1 rear)

**Manageability**
- Redfish 1.0 + IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM

**Power Management**
- SuperDoctor® 5, SSM, Watchdog

**BIOS**
- AMI UEFI

### vPro AMT

**Model**
- **X105SLQ-L**

**Processor**
- Intel® Celeron® Processor J1900, Single Socket FCBGA1170 supported; CPU TDP 10W, 4C, 2.0GHz-2.42GHz

**Chipset**
- System on Chip Intel® H81 Express

**Memory**
- 4GB DDR3-1066 MHz in 4 DIMM slots

**Expansion Slots**
- 2 PCI-E x1

**Onboard LAN**
- 1 Gigabit Ethernet

**Onboard VGA**
- 1 Mini-PCI-E slot

**USB Ports**
- 2 USB 3.0 ports (2 rear) + 4 via headers

**Other Onboard I/O Devices**
- 1 SATA DOM power connector
- 1 USB 3.0 port (1 rear)

**Manageability**
- Redfish 1.0 + IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSM, SUM

**Power Management**
- SuperDoctor® 5, SSM, Watchdog

**BIOS**
- AMI UEFI

### BIOS
- AMI UEFI

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**Form Factor**
- Flex ATX 9.0” x 7.25”
- Mini-ITX 6.7” x 6.7”
- Micro-ATX 9.6” x 9.6”

**BIOS**
- AMI UEFI

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**Operating Temperature**
- 0°C - 60°C

**WOL**
- 0°C - 60°C

**Power Supply**
- 2U Heatsink: SNK-P0046A4

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**Supports**
- System management utility, System level control
- Supports system management utility, System level control
- Supports system management utility, System level control

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**Conclusion**
- Embedded/IoT Building Block Solutions offer a wide range of features and configurations, catering to various applications and performance needs.

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**Further Reading**
- Embedded/IoT Building Block Solutions - September 2022
Better
Better Performance Per Watt and Per Dollar

Faster
First-to-Market Innovation with the Highest Performance Server Designs

Greener
Reduced Environmental Impact and Lower TCO

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